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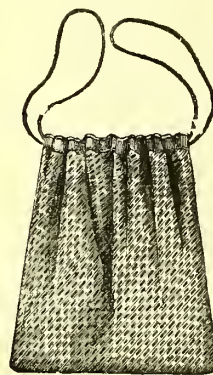
	Gloves. (Pairs.)	Straps.	Pads.		Gloves. (Pairs.)	Straps.	Pads.
CALEFACIO OR BADEN, No. 1, soft Brown . . . per doz.	6/0	9/0	5/4	HONEYCOMB, White. per doz.	5/4	9/0	5/4
CALEFACIO OR BADEN, No. 2, hard Brown . . . per doz.	6/0	9/0	5/4	REVERSIBLE, No. 1, one side soft Brown, the other best White Turkish . . . per doz.	6/8	11/0	5/4
CALEFACIO OR BADEN, No. 3, soft Brown, assorted patterns, per doz.	6/6	9/0	5/4	REVERSIBLE, No. 2, one side hard Brown, the other White Honeycomb . . . per doz.	6/8	11/0	5/4
CALEFACIO OR BADEN, as- sorted patterns, export quality, per doz.	4/0	(Red labels)		REVERSIBLE, No. 3, one side Egyptian Loofah, the other best White Turkish, per doz., single	4/6 and 5/6	16/0	—
CALEFACIO (the U.S.), Striped soft Brown . . . per doz.	6/6	9/0	5/4				

TURKISH, White, per doz. pairs, 2/9, 3/- & 4/-; SUPER, 4/9 and 6/-

TURKISH, Assorted, Coloured Stripes, per doz. pairs, 5/6 & 6/-

WATERPROOF SPONGE BAGS.

	1 7×6	2 8×7	3 9×8	4 10×9	5 11×10	6 12×11
CHECK, Super	6/-	7/-	9/-	11/-	12/6	16/- per doz.
SATIN	7/6	9/6	11/6	14/6	18/-	21/- "
SATTEEN (Check double faced)	7/6	9/6	11/6	14/6	16/6	18/6 "
" Fancy	6/-	7/3	8/3	10/-	11/6	13/- "
SILK	7/-	9/-	11/-	13/6	17/-	20/- "

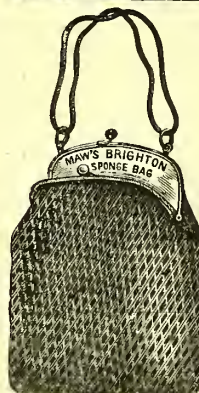


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	No. 2 8×7	3 9×8	4 10×9	5 11×10	6 12×11 in.
CHECK	10/-	12/-	14/-	16/-	18/- per doz.
CHECK, Super	16/-	18/-	20/-	26/-	28/- "
PAISLEY	18/-	20/-	22/-	28/-	32/- "
SATTEEN, Fancy	12/-	14/6	16/6	18/6	21/- "

For other descriptions see Quarterly Price Current, page 75.



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Having been appointed Sole Agents for the excellent Brand of **Johann Maria Farina, Gegenuber dem Freisenplatz**, for the United Kingdom and Colonies, which has a great reputation on the Continent, is admitted to be *second to none*, we ask you to order a sample lot. It bears a good profit, and is, therefore, worth introducing.

2 oz.	8/- doz.
4 "	14/- "
4 "	Wickered, Gold Label	...	16/- "
½ pint	"	...	24/- "
1 "	"	...	47/- "
2 "	"	...	93/- "

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Fifteen per cent. acid carbolic. Tins bear no name, only "Acme Brand."

1d. Packets, half-gross in box	...	6/6 gross
4d. Tins, with attractive wrappers	2/- doz.	
6d. " decorated Black and Gold	3/6 "	
1/- " " " "	6/6 "	

(Extra large size.)

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Patent Stoppered Cheltenham, 8 oz., plain labels, each Bottle in handsome cartoon ... 8/9 doz.

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6d. " " revolving lids 30/- "
1/- " " " 66/- "
Empty Tins, 1d. " 1/10; 3d. " 4/6; 6d. " revolving lids, 6/-; 1/-, ditto, 7/- gross.

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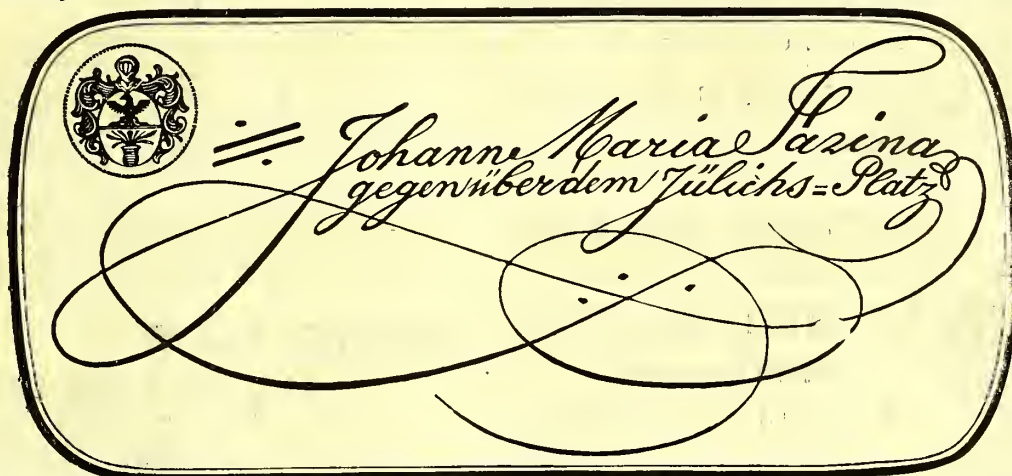
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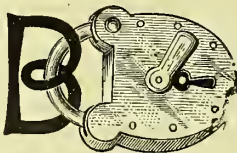
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DEAR SIR,—I thank you for the ungrudging manner in which you supplied everything, and for your constant and unwearying attention whilst I was with you.

May, 1892.

Yours sincerely,

J. R. CHIPPENDALE.

19 SWINTON STREET, W.C., Jan., 1893.

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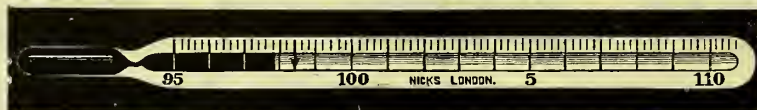
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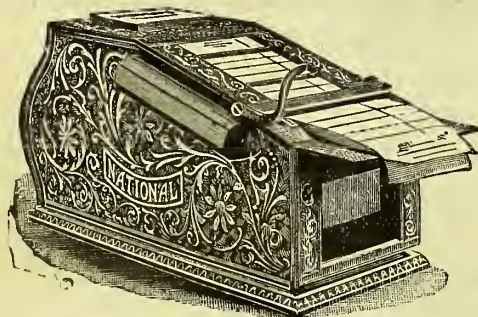
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Shop-rounds and carboys, jars, showcases; state wants. Mahoney, 723 Old Kent Road, About 150 second-hand recess-bottles, wide and narrow mouth, all sizes, equal to new. Address, "Chemists," c/o Ayrton & Saunders, 149 Duke Street, Liverpool.
Bargain.—The complete fittings, fixtures, and trade utensils for chemist, including mahogany nests of cupboards, drawers, shelves, show-cases, 4 4-gallon carboys, 160 shop-rounds, 50 gold-labelled ointment-jars, outside lamp, &c.; must be sold. Apply, E. 17 Queen's Road, Hastings.

Drugs and Chemicals.

One cwt. tamarinds (fine fruit) for sale, 3d. per lb. Hagon, Chemist, Cardiff.

Educational.

Excellent little microscope, for Minor student, 17s. 6d.; also Rose's "Chemistry," latest, 3s.; Oliver's "Botany," 1s. 9d. Williams, 12 West Hill, Wandsworth.

Miscellaneous.

For sale or exchange, about 150 gold-labelled shop-rounds, in good condition; also surplus drugs and patents. George Hume, Fenton, Staffordshire.

Overstocked with feeders (20 dozen), offers wanted; also few soiled trusses and electric bell. 223/32, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

Shop-jars (6 doz.), mortars, pestles (5 doz.); under value. 223/40, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

WANTED.

Materialia-medica specimens. Send full particulars and price to F. U. Stamp, High Street, Hampstead.

Reliable working recipe for "sticky fly-gum."

Particulars to 225/41, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

Adjustable operating-chair, also office-lathe, in good condition. Particulars as to price, &c., "Dentist," c/o Huxley, 176 Cemetery Road, Sheffield.

Enemas (new design). Will manufacturers kindly quote prices of same to J. Cameron, Magnetist, Masseux, and Medical Herbalist, 22 Williams Street, Merthyr Tydvil, Wales?

Address Wanted.

Rev. Mr. Palmer; tall and stout; has friends or relatives at Torrington. Any information will be gladly received by C. Hanson, Pharmacist, Cressington, Liverpool.

VINT'S PATENT UNBREAKABLE MENTHOL

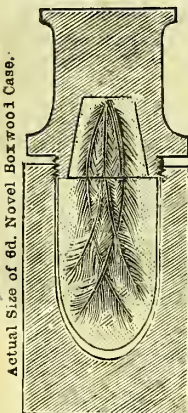
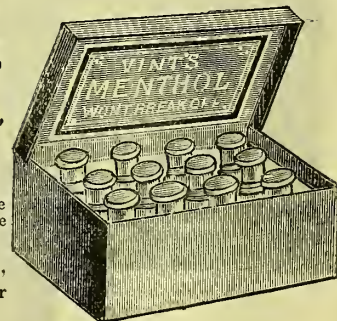
Is firmly secured to the holder by the insertion of Feather Tips, which Penetrate the Cone, are Soft, Tough, and Spreading, so that it

WON'T BREAK OFF.

The Chemist and Druggist says: "MR. VINT, CHEMIST, HASTINGS, is the originator of an ingenious idea for securing Menthol Cones so that they may be used to the last without fear of breakage."

3 6 & 6/6 doz., of Barclay, Maw, Sanger, Sutton, Edwards, Newbery, May Roberts, Chemists' Association, and all Sundry Dealers; or 1 dozen of either size sent free on receipt of P.O. 3/6 or 6/6.

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NEW PEPsin,
2500° TEST.
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PERFECTLY SOLUBLE.
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INODOROUS.
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All these points have been hitherto unattainable in one pepsin. This pepsin combines all the advantages with none of the disadvantages of both soluble and insoluble pepsins.

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PURE PANCREATIN
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ANCOATS & 146 MINORIES
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PRICES.

SYPHONS ... 1/6 1/8 and 1/10 each.

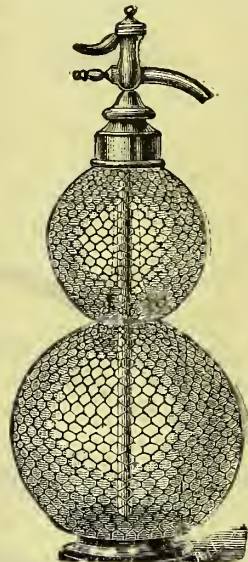
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1 2 3 4 5 8 pint.
6/- 6/8 7/6 8/6 10/5 16/- each.

Including two funnels and stopper for charging.
The tops of these Seltzogenes are made of pure b'ock tin, guaranteed.

All our Seltzogenes are manufactured on the well-known "Fevre" System, and each one is thoroughly tested before leaving the works.

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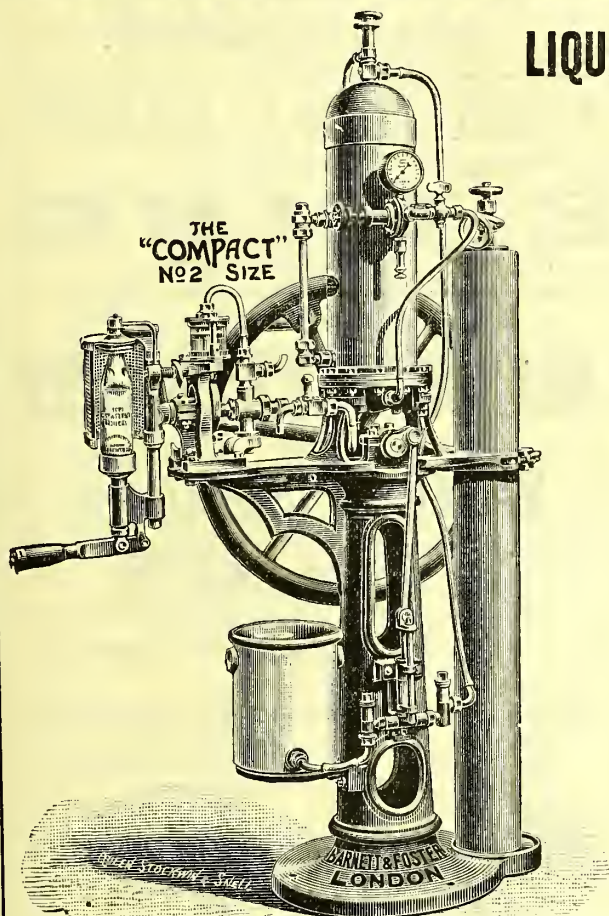
ÆSCULAP, CARLSBAD, CARLSBAD SALTS, LA-BOURBOULE, ROSBACH, VALS, ETC., ETC.

NAME	Per Dozen				Original Packages				NAME	Per Dozen				Original Packages			
	Bots.	½ Bots.	Bottles	½ Bottles	Bots.	½ Bots.	Bottles	½ Bottles		Bots.	½ Bots.	Bottles	½ Bottles	Bots.	½ Bots.	Bottles	½ Bottles
Æsculap	15/-	12/-	25	30/-	50	50/-	100	39/-	Levico	—	15/-	—	—	—	—	—	—
Apollinaris	6/3	5/-	50	25/-	100	39/-	—	—	Pullna	12/-	8/-	40	36/-	40	25/-	—	—
Bourboule (La) ..	11/-	—	50	42/-	—	—	—	—	Reginaris	5/6	4/6	50	21/-	50	17/-	—	—
Carlsbad	12/-	—	50	46/-	—	—	—	—	Rosdorf	6/-	—	50	25/-	50	24/-	—	—
Condal	—	14/-	—	—	50	56/-	—	—	Rosbach	6/-	5/-	50	24/-	100	36/-	—	—
Contrexeville .. .	9/-	—	50	35/-	—	—	—	—	Royat	9/-	—	50	34/-	—	—	—	—
Flitwick	24/-	15/-	—	—	—	—	—	—	Rubinat	15/-	9/-	25	30/-	50	36/-	—	—
Franz-Josef	—	12/-	—	—	50	42/-	—	—	St. Galmier .. .	6/-	—	50	22/-	—	—	—	—
Friedrichshall ..	13/-	10/-	25	25/-	50	40/-	—	—	St. Marco	11/-	6/6	50	42/-	100	52/-	—	—
Gerolstein	5/-	4/-	50	20/-	50	15/-	—	—	Selters	6/-	4/6	50	24/-	50	17/-	—	—
Hunyadi-Janos ..	15/-	13/-	25	30/-	50	50/-	—	—	Vals	8/6	—	50	33/-	—	—	—	—
Johannis-Brunnen ..	6/-	4/6	56	22/-	100	35/-	—	—	Vichy (State Springs) ..	8/6	7/6	50	33/-	50	29/-	—	—
Kronenquelle .. .	10/-	—	50	40/-	—	—	—	—	"Celestins," "Grande-Grille," &c.	—	—	—	—	—	—	—	—

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SODA WATER MAKING

WITH LIQUEFIED CARBONIC ACID GAS.



THE
"COMPACT"
No. 2 SIZE

From Mr. A. THOMPSON, M.P.S., 98 High Street, Putney, S.W.

June 11, 1891.

I am more than satisfied with the "Compact" Machine, which answers my utmost requirements. I have nearly trebled my sale this last three weeks.

I find the waters produced by this Machine far better than I have been able to obtain from any one, being much more saturated with the gas, and the Syphons emptying themselves straight off, without shaking.

From Mr. C. F. WYATT, Chemist, Rochester.

December 16, 1892.

Replying to your inquiry as to "Compact" Soda Water Machine I can only say that I am satisfied with it and the work it does in every possible way. The aeration of the water is perfect, and my customers are now highly pleased with the quality of the goods.

I would also add that beyond the renewal of a few washers, no repairs of any kind have been required since I had it, some fifteen months since.

THE No. 2 "COMPACT" Machine (AS SHOWN).

Producing capacity, by hand, 35 dozen per hour.

PRICE £48.

Or, if fitted for steam, 70 dozen per hour (with an extra filling machine).

NOTE.—Any kind of filling machine can be attached to the "Compact" Machines, EITHER for Syphons, Internal Stopped, Cork, or Screw Bottles.

Iron Vessel containing an average of } 10s.
28 lbs. by weight of Liquefied Gas } each.

And has sufficient Gas to manufacture about 18 gross of highly-charged Soda Water (10-oz. Bottles), or double this quantity of splits.

These Machines occupy little space, and are ready for use immediately! They require no fixing! Are self-contained and produce soda water, lemonade, &c., of the highest class and greatest purity, at a minimum of cost.



THE 'LONDON-MADE' SYPHON

(Title Registered).

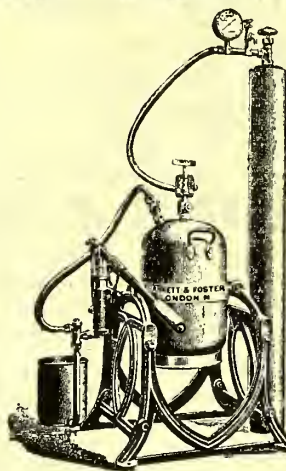
It is the Cheapest, Strongest, Hand-somest, and Best in the World.

Pure Block Tin Tops.

PRICE 1/6 EACH.

Nickel-plating Tops from 3d. each.
Silver-plating Tops from 4½d. each.
Marking on Tops Free for orders of 250. Marking on Vases Free for orders of 1,000.

THE PORTABLE CYLINDER,



Portable Cylinder with Pump fitted to Rocker.

As here shown, is charged with plain filtered water while on the Rocker; the gas from the vessel is then slowly turned on, and the copper cylinder rocked backwards and forwards sharply so as to agitate or mix the water and gas together. When charged to the required pressure (about 110 lbs., shown by the pressure-gauge), it can be removed and attached to the Counter Fountain, or for a filling machine if desired.

Prices.

	£	s.	d.
Six-gallon Tinned Copper Cylinder ..	5	10	0
Cast-iron Rocker ..	1	2	6
Flexible Pipe, Pressure-gauge, Safety-valve, & Connections ..	3	3	0
If fitted with Pump for pumping the water into the cylinder (and so avoiding waste of gas) extra ..	5	5	0

Prices of larger Cylinders upon application.

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BARNETT & FOSTER, "Niagara Works," LONDON, N.
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PURE ORANGE WINE

(VINUM AURANTII, B.P.), prepared in strict accordance with the Formula of the British Pharmacopœia.

MOST SUITABLE BASIS FOR QUININE AND OTHER MEDICATED WINES.

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HIRST, BROOKE & HIRST (LIM.), LEEDS, Manufacturing Chemists and Wholesale Druggists, Manufacturers of ORANGE WINE

Of Finest Flavour and Quality, and specially suitable for the Preparation of Orange Quinine Wine.

ESTABLISHED NEARLY FIFTY YEARS.

PRIZE MEDALS AWARDED AT ALL THE EXHIBITIONS

EUGENE GERAUT & CO.'S

LATEST

NEW PATENT SELTZOGENE

PATENT No. 18,305.

For the immediate Preparation of Seltzer Water, Eau de Vichy,
Soda Water, Sparkling Lemonade, Aerated Waters, &c.

Finding so many complaints through the screws of Seltzogenes getting worn and Customers not screwing taps on tight enough, E. G. & Co. have patented the above improvement in their Seltzogenes, which differs materially from the numerous kinds that have from time to time been introduced, there being no screwing required, thus the machines cannot easily get out of order.

In place of Screw on Tap, there is a Clip, which is easily fastened to the Seltzogene, any Child being able to Screw the little Key at Top, and making perfectly Air-tight the Apparatus.

**WEAR AND WORKING GUARANTEED.
NO MORE SCREWING REQUIRED. TAP
CANNOT GET CORRODED.**

CONTRACTORS TO HER MAJESTY'S GOVERNMENT.

SOLE ADDRESS—

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Seltzogenes and Gazogenes Repaired.

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PRIZE MEDALS
AWARDED.

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MASON'S EXTRACTS

AND

WINE ESSENCES.

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"	"	DANDELION
"	"	SARSAPARILLA
"	"	HOPS
"	"	GINGER
"	"	GINGER ALE

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ENGLISH MAKE.

Perfect Action. Full Strength. Best Workmanship. Thoroughly Reliable.
Well Tested. Metal Guaranteed Free from Lead. Lowest Prices
consistent with First Quality.THE ORIGINAL AND ONLY REAL
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The "MAJOLICA" Porcelain Lined Heads

(By Royal Letters Patent, No. 15,686).

Metallic contamination of the waters utterly impossible. Vide *The Lancet*, 30 April, 1890, and other scientific opinions.

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Natural Aperient. Strongest in the cathartic salts, and, fortunately, it happens to be not unpalatable.

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Most Delicious Sauce in the World. Bottles, 6d., 1s., & 2s. each.

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The Best in the World. 1d. Packets; 6d., 1s., 2s., and 5s. Tins.

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One 6d. Tin is equal to 25 Eggs. In 1d. Packets; 6d., 1s., and 5s. Tins.

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Delicious Custards without Eggs. In Boxes, 2d., 6d., & 1s. each.

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Delicious Blancmange in a Few Minutes. Boxes, 6d. and 1s. each.

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Best Tonic yet Introduced. Bottles, 6d., 1s., and 2s. each.

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Makes the Best Ginger-Beer. Packets, 3d. and 6d.

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For Painting Stoves, Grates, Iron, Tin, &c. 6d. & 1s. Bottles.

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Rich and Lasting Perfume. Bottles, 1s., 2s., and 5s. each.

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Make a Delicious and Nutritious Jelly. In $\frac{1}{2}$ -pint, 1-pint, and Quart Boxes, 3d., 6d., and 1s. each.

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TO THE CHEMISTS & DRUGGISTS OF GREAT BRITAIN.

TELEGRAPHIC ADDRESS:

COLEMAN,
GEORGE'S, NORWICH,St. George's, Middle St.
NORWICH,
December, 1887.

The Excise Authorities having created a difficulty as to the sale of Medicated Wine containing a certain percentage of alcohol, we obtained in January last, from the Inland Revenue Authorities, permission to sell our WINCARNIS,* or Liebig's Extract of Meat and Malt Wine, WITH QUININE, without a Wine Licence, and many Chemists not holding a Wine Licence have sold considerable quantities. In order further to meet the requirements of the trade, we have introduced a Liebig's Extract of Meat and Malt Wine, NON-Alcoholic, made from the juice of the Grape, Liebig's Extract of Meat, and Extract of Malt. This also can be SOLD WITHOUT A WINE LICENCE. Your orders will oblige either direct or through the Wholesale Houses.

Yours obediently,

COLEMAN & CO., LIMITED.

N.B.—The Wine is sold in Bottles, 2/9 and 4/6 each.
Trade prices on application.

P.S.—Where the Magistrate's Certificate is not held we are willing to pay the entire cost of a Retail Certificate (the holder of which can sell any kind of Wines) if an assorted order of 6 dozen is sent us of any of our preparations List on application. Our WINCARNIS,* or Liebig's Extract of Meat and Malt Wine WITHOUT QUININE commands a very large sale, and is recommended by over 2,000 medical men who have sent us testimonials in its favour.

SOLE MANUFACTURERS—

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* WINCARNIS is a NEW NAME, registered to prevent fraudulent imitations.

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WORCESTER, READING, HARVIE, YORKSHIRE, AND "BOROUGH" KETCHUP.

SILVER MEDAL.

		Per gross.	Extra quality.			Per gross.	Extra quality.
Ed. Sample Bottles,	dozen parcels	5/3	6/3	1 Bottle, flat or round, reputed	half-pints ..	16/-	26/-
"	" 1-gross boxes	5/9	6/9	"	" pints ..	26/-	38/-
Ed. Giant	" dozen parcels	6/6	8/6	1 Pint Imperial, round stoppered	bottles ..	52/-	62/-
"	" 1-gross boxes	7/-	9/-	12½-Gallon Casks (casks free)	.. .. each	20/-	32/-

ROYAL CAFE SAUCE, a Rich Fruity and Exquisite Flavour.

Square Glass Stoppered Bottles, containing nearly ½-pint Imperial, 42/- per gross. Sample Bottles at 7/- per gross.

MANUFACTORY — 30 SOUTHALL PLACE, LONG LANE, BOROUGH, LONDON, S.E.
CHIEF SCOTCH AGENCY — West Nile Street, GLASGOW.

MORE GENUINE WITHOUT THE

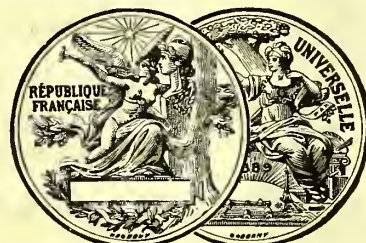


TOWER TEA

HIGHEST AWARD, PARIS, 1889.

Analysis by the "LANCET," December 20th, 1890:—

"We have submitted to examination the Teas of the Great Tower Street Tea Company (Limited). They all yield liquors which are generous to the taste, and of full strength and vigour. The results of our analysis indicate the purity and genuineness of the samples."



REGISTERED TRADE MARK.

Where Vacancies exist, Agencies are appointed by

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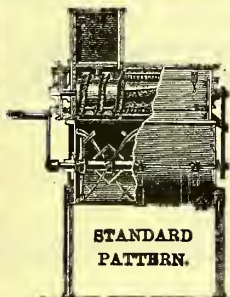
THE GREAT TOWER STREET TEA CO., LIMITED

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SEE GARDNER'S

"RAPID"!!!

SIFTERS & MIXERS



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June 17th to 23rd, 1893.

Prices from 48/- to £120.

Capacities from 2 lbs. to ½ ton at One Mixing.

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GLOUCESTER.

MASON & CO.'S, LIM. PREPARATIONS.



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Essence of Beef
Essence of Chicken
Essence of Veal
Essence of Mutton
Beef Tea Jelly
Concentrated Beef Tea
Meat Lozenges

Meat Juice
Malted Food for Infants
Extract of Malt
"O.K." Bouillon
"O.K." Sauce
"O.K." Relish
"O.K." Curry Powder

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HALL'S COCA WINE

A HIGH-CLASS MEDICATED WINE AT A REASONABLE PRICE

Is being recommended by hundreds of
BRITISH Medical Men.

Is highly recommended by "The Lancet,"
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BEARS NEARLY 50 PER CENT. PROFIT.

IS MOST PALATABLE.

SELLS WELL.

ALL THE WHOLESALE HOUSES STOCK IT.

STEPHEN SMITH & CO., BOW, LONDON.

TO WHOLESALE CHEMISTS, EXPORTERS, &c.

THE FINEST

MALT EXTRACT

SUPPLIED DIRECT IN BULK OR BOTTLE. Samples and Prices on application from

MONTGOMERIE & CO., LIM., PARTICK, GLASGOW,

The Largest Malt Extract Manufacturers in the Kingdom.

PEPSALIA.

The New Improved and Perfected Style. White and Odourless.

Guaranteed to keep good indefinitely in all climates.

1/- size	---	---	---	---	Per dozen, 10/-	---	---	---	---	Per gross, 105/- net.
2/- "	---	---	---	---	" 20/-	---	---	---	---	" 210/- "
5/- "	---	---	---	---	" 50/-	---	---	---	---	" 525/- "

PUMILINE.

Essence 1/6	---	---	Per dozen, 15/-, less 10 per cent.	Liniment 1/9	---	---	Per dozen, 20/-, less 10 per cent.
" 2/6	---	---	" 24/- " 10 "	Jujubes 1/1	---	---	" 10/6 " 5 "
Extract 1/-	---	---	" 9/- " 10 "	" 2/3	---	---	" 20/- " 5 "
Ointment 1/1½	---	---	" 11/- " 10 "	Dry Inhalers, complete 1/6	---	---	" 14/- " 10 "
" 2/9	---	---	" 27/- " 10 "				

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ARMBRECHT COCA WINE

ITS VIRTUES.

A powerful nerve stimulant. Restores the functions of the digestive organs, strengthens the mental and physical powers, assuages thirst, relieves nervous debility. Given with benefit in cases of opium and morphia habit.

THE ORIGINAL.—The leaves which we always employ are those of **Erythroxylon Coca**, Lamarck. We select them with the greatest care, and ensure by a thoroughly sound process of manufacture that Armbrecht Coca Wine is a true representation of the valuable properties of the drug.

THE FAVOURITE.—The composition of the "medium" wine, which has by far the largest sale of the six varieties, is *our secret*. We introduced this wine, at the suggestion of Dr. Spencer Wells, as a kind of compromise between Malaga, which was generally considered too sweet, and Burgundy, which found some objectors on the score of tartness of taste.

Please use this Order Form.

To Messrs. Armbrecht, Nelson & Co., Duke Street, Grosvenor Square, London, W.

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	...	" " "	...	49/6	...	"	...	66/0	"
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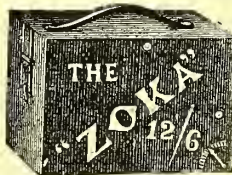
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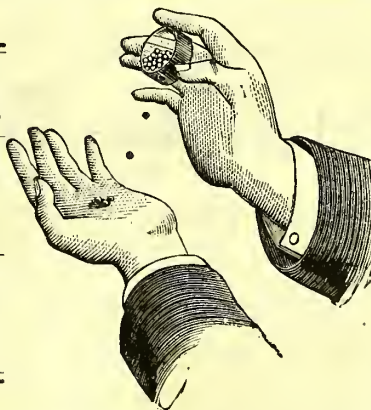
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Ammon. Bromide, 5 and 10 gr.
Ammon. Chloride, 3, 5 and 10 gr.
Ammon. Chloride with Borax.
Antacid (Magnesio-Calcic) (Calcium Carb. Precip., 3 gr.; Magnes. Carb., 2 gr.; Sodii Chlorid., 1 gr.).
Antifebrin, 2 gr.
Antim. Tartarate, 1/50 gr.
* Antipyrin, 2 1/2 gr.
Antipyrin, 5 gr.
Apomorphine Mur., 1/50 gr.
Arsenious Acid, 1/100 and 1/50 gr.
Atropa Sulph., 1/100 gr.
Belladonna Tinct., 1, 5, and 15 min.
Bismuth Subnitrate, 5 and 10 gr.
Bismuth and Soda, 2 1/2 gr. each.
Blaud's Pill, 4 gr.
Blue Pill, 3 gr.
Borax, 5 gr.
Caffeine Citrate, 2 gr.
* Calcium Sulph., 1/10 gr.
Calomel, 1 and 1 gr.
Campher Comp. Tinct. (Paregoric), 2, 5, and 15 min.
Cannabis Indica Tinct., 5 min.
Capsicum Tinct., 1 min.
* Cascara Comp. (Cascara Ext., Dry, 1 gr.; Eucalypt., 1 gr.; Nuc Vomica Ext., 1/16 gr.; Hyoscyamus Ext., Dry, 1/3 gr.; Iridin, 1 gr.).
* Cathart. Comp. U.S.P. (Ext. Coloc. Co. Pulv., 1/4 gr.; Ext. Jalapae Pulv., 1 gr.; Hyd. Subchlor., 1 gr.; Camboogia Pulv., 1 gr.).
Chloralamin, 5 gr.
Chloral Hydrate, 5 and 10 gr.
Cinch. Co. Tr., 30 min.
Cinch. Co. Tr., 30 min.
Cocaine Mur., 1 gr.
Cocaine with Potash ORAX (see Vence).
Copper Arsenite, 1/1000 gr.
Cretae Aromat. cum Opio Pulv., 5 gr (Aromatic Confection with Opium).
Cubeb. Belladonna Efferves.

Cubeb. Comp. (Cubeb. Pulv., 2 gr.; Ammon. Chlor., 1 gr.; Ext. Glycyrrh.).
Dialysed Iron, 10 min.
Digitalis Tinct., 1 mia.
Digitalin, 1/100 gr.
Diuretin, Knoll's 5 gr.
Dover Powder (see Ipecac. and Opium).
* Ergotin, 3 gr.
Euonymin Resin, 1/8 gr.
Exalgin, 2 gr.
Gelsem Semp. Tr., 5 min.
Guaiacum and Sulphur, aa 3 gr.
Hydrarg. cum Creta, 1/4 and 1 gr.
Hydrarg. cum Creta, 1 gr.; with Dover Powder, 1 gr.
Hydrarg. Iod. Rub., 1/20 gr.
Hydrarg. Iod. Vir. (Proto-Iodide of Mercury), 1/8 gr.
Hydrarg. Perchlor., 1/100 gr.
Hydrarg. Subchlor., 1/10 gr. (see also Cal mel, 1 gr.).
* Hydrastis Comp. (Hydrastis Mur., 1 gr.; Ergotin, 1 gr.; Canabin Vomica, 1 gr.).
Hydrophatol, 3 gr.
Hyoscyam. Tr., 10 min.
* Ichthyol, 2 1/2 gr.
Ipecac. and Opium, 1 and 5 gr. (Dover Powder).
Ipecac. Powder, 1/10 and 5 gr.
Ipecac. Pulv. cum Antim. Tart., aa 1/100 gr.
Iron and Arsenic Comp. (Quinine Bisulph., 1 gr.; Iron Hypophosph., 2 gr.; Arsenic, Strych. Sulph., aa 1/50 gr.).
* Iron and Quinine Cit., 3 gr.
* Laxative Vegetable (Res. Podoph., Ext. Hyoscy., Ext. Tamar., aa 1/4 gr.; Ext. Coloc. Pulv., 1 gr.; Ext. Jalapae Pulv., Res. Leptand., aa 1/2 gr.; Ol. Menth. Pip.).
Lithia Carbonate, 2 gr.
* Lithia Co. (Dr. Lane's formula) (Lithia Benzoes, 3 gr.; Sulphur Precip., 2 gr.; Quin. Salicy., 1/3 gr.).
Magnes. Carb. Comp. (Antacid) (Pot. Bicarb., 2 gr.; Sodii Bicarb., 2 gr.; Magnes. Carb. Lewis, 2 gr.; Sodii Chlorid., 3 gr.).

Manganese Dioxide, 2 gr.
Morphine Sulph., 1/20 and 1/8 gr.
Nasal, Alkaline (Borax, 5 gr.; Sodii Chlor., 5 gr., effervescent).
Nasal, Antiseptic and Alkaline (Sodii Bic., 5 gr.; Acid. Carbolic., 1/2 gr.; Borax, 5 gr.).
Naso-pharyngeal (Dr. Maunington Jones' formula) (Sodii Chlorid., Borax, Boric Acid, Benzoic Acid, Menthol, Thymol, Cucaine Mur., Ol. Gauthierae).
Nitroglycerine, 1/100 gr. (see also Trinitrine).
Nux Vomica Tinct., 1, 3, & 10 min.
Opium Tinct., 2, 5, and 10 min.
Opium, 1 and 1 gr.
Pancreatin (see Zymine "Tabloids").
Papain, 2 gr. (Dr. Finkler & Co.).
Pepsin (Fairchild), 5 gr.
Pepsin, Saccharated, 5 gr.
* Peptonic, 3 gr. (Pepsin, Pancreatin and Lactophosph. of Lime, p. eq.).
* Peptonic (new process) (Zymine, 1 gr.; Calcii Lacto-Phosphate, 1 gr., coated with Keratin; Pepsin Pure, 1 gr., is then added, and the complete "Tabloid" coated with pure white sugar).
Phenacetin (Bayer), 5 gr.
Pilocarpin Mur., 1/20 gr.
Podophyllin Resin, 1/4 gr.
Potass Bicarb., 5 gr.
Potass Bromide, 5 and 10 gr.
Potass Chlorate, 5 gr.
Potass Chlorate with Borax.
Potass Iodide, 5 gr.
Potass Nit. (Sal Prunella), 5 gr.
Potass Permanganate, 1 and 2 gr.
Quinins Bisulphate, 1 gr.
* Quinine (Bisulph.), 1, 2, 3, and 5 gr.
Quinine Sulphate, same strengths, sizes, and prices as Quinins Bisulphate.
Reduced Iron, 2 gr.
Resorcin, 3 gr.
* Rhubarb Comp. (Pill), 3 gr. (Rheipulv., 1 pt.; Aloes soc. Pulv., 1 pt.; Saponis Pulv., 5/8 pt.; Myrrhe Pulv., 5/8 pt.; Ol. Menth. Pip.).
Rhubarb Comp. Pulv. (Gregory powder), 5 gr.

Rhubarb and Gentian (Stomachic Comp.) (Infusion Gentian. Co., 2 gr.; Infusion Rhei, 2 fl. dr.; Sodii Bic., 5 gr.; Ol. Menth. Pip., 1/2 ott.).
Rhubarb and Sodii, 5 gr. (Rheipulv., 5 pts.; Sodii Bicarb., 2 pts.; Zingiber, 1 gr.).
Rhubarb, 3 gr.
Saccharin, 1 gr.
Salicin, 5 gr.
Salol, 5 gr.
Santonin, 1 gr.
Soda Bicarbonate, 5 gr.
Sodium Dithio-salicylate, 5 gr.
Soda-Mint or Neutralising "Tabloids" (Sodii Bicarb., 4 gr.; Ammon. Carb., 1/8 gr.; Ol. Menth. Pip., 1/8 gr.).
Sodium Salicylate, 3 and 5 gr.
Strophanthus (2 minims of Tinct. in each).
Sulphonal, 5 gr. (Sir A. Garrod's formula) (sulph. Precip., 5 gr.; Potass Bitart., 1 gr.).
Tannin, 2 1/2 gr.
Tar, 1 gr.
Test "Tabloids" (for preparing Fehling's Solution).
Thirst.
Thyroid Gland, 5 gr.
Tinct. "Tabloids." In oval bottles and bottles of 100.
* Tonic Comp. (Iron Pyrophos., 2 gr.; Quinine, 1 gr.; Strych., 1/100 gr.).
Trinitrine (Nitroglycerine), 1/100 and 1/50 gr.
Trinitrine and Amyl Nitrite.
Trinitrine Comp. (Trinitrine 1/100 gr.; Nitrite of Amyl, 4 gr.; Capsicum, 1/50 gr.; Menthol, 1/50 gr.).
Urethane, 5 gr.
Voce (Potash, Borax, and Cocaine).
Warburg Tincture, 20 min. in each.
Zinc Sulphate, 1 and 10 gr.
Zinc Sulpho-carb., 2 gr.
Zinc h. Fort. Tinct., 5 min.
Zymine (Fairchild).
Zymine Comp. (Fairchild) (Zymine, 2 gr.; Bismuth Subnit., 3 gr.; Pulv. Ipecac., 1/10 gr.).

All those "Tabloids" distinguished by asterisks (*) may be had beautifully coated with perfectly soluble pure white sugar. The improved appearance of these "Tabloids" when sugar-coated and the perfect protection from objectionable taste have made them increasingly popular with both physician and patient. In those cases where any difficulty has arisen in the prompt supply of this sugar-coated variety, we shall be glad if the physician will kindly write us in order that we may be able to communicate with pharmacists in districts not yet supplied. In the following will be found recent additions to our list:—

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"	"	4	"	100	" 120/-
"	Alumol.	4	"	24	" 7/6
"	"	4	"	100	" 18/-
"	*Antipyrin,	2 1/2	"	24	" 7/6
"	"	2 1/2	"	100	" 25/-
"	"	5	"	24	" 12/9
"	"	5	"	100	" 47/-
"	Benzosol,	5	"	24	" 16/-
"	"	5	"	100	" 56/-
"	Dermatol,	5	"	24	" 7/6
"	"	5	"	100	" 24/-
"	Hypnal,	5	"	24	" 14/-
"	"	5	"	100	" 52/-
"	Icdopyrin,	5	"	24	" 18/-
"	"	5	"	100	" 64/-
"	Thyroid Gland,	5	"	100	" 24/-

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This Report, which contains a number of delicate and interesting analyses, a full description of the Spring, method of bottling, &c., at Zollhaus, Germany, together with numerous press notices, public and private testimonials, &c., will be sent to any part of the world, post free, on receipt of address.

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"The water mixes well with wines and spirits, the peculiar softness which the natural gas lends to the taste rendering it admirably adapted for the purpose."—*The Lancet*, 1891.

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AS AN OFFICIAL JOURNAL

THE CHEMIST AND DRUGGIST is supplied regularly to every member of the following Societies:—PHARMACEUTICAL SOCIETY OF IRELAND, SOUTH AFRICAN PHARMACEUTICAL ASSOCIATION, MIDLAND PHARMACEUTICAL ASSOCIATION OF NEW ZEALAND, CENTRAL ASSOCIATION OF NEW ZEALAND, OTAGO PHARMACEUTICAL ASSOCIATION, PHARMACEUTICAL SOCIETY OF QUEENSLAND, PHARMACEUTICAL SOCIETY OF SOUTH AUSTRALIA, PHARMACEUTICAL SOCIETY OF WESTERN AUSTRALIA, and TASMANIAN PHARMACEUTICAL SOCIETY.

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OUR SUMMER ISSUE.

WHOLESALE and manufacturing firms who may wish to bring themselves and their products before the best constituency of chemists and druggists at home and in the colonies are requested to note the opportunity which will be provided in our Summer Issue on July 29. For insertion in that issue we are prepared to receive specially printed insets the same size as THE CHEMIST AND DRUGGIST pages, and we shall distribute the issue to 11,000 of the best houses and buyers in the English-speaking drug trade. Specially printed circulars form a most effective and profitable means of advertising, and many of the leading houses in Europe and America have in the past used THE CHEMIST AND DRUGGIST as an economical channel of distributing matter to the trade at large. The publishers will be glad to furnish particulars to any who wish further information regarding the Summer Issue.

Summary.

WE report four deaths from carbolic-acid poisoning this week.

THE carbolic smoke-ball business has been converted into a limited liability company, with a capital of 35,000*l*.

THE prospect of a largely-increased supply of raw camphor from Formosa is discussed in an Editorial.

A CHEMIST from the Transvaal Republic has given us some interesting information regarding pharmacy in that locality.

MR. J. LAIDLAW EWING has been re-elected Chairman of the Executive of the North British Branch of the Pharmaceutical Society.

SOME details concerning the manufacture of Cooper's sheep-dip are given in a special article. This year is the jubilee of their business.

THE annual meeting of the Chemical Section of the London Chamber of Commerce has been held. Mr. Wightman has been re-elected Chairman.

ANOTHER Irish Bench of Magistrates has insisted on amending a summons brought before them in regard to the sale of poisons, so as to reduce the penalty from 5*l*. to 1*l*.

AN interesting trial in reference to a Carlsbad salts trademark, showing the extreme jealousy with which the right to sell the native salts is guarded, is reported from the Law Courts.

THE prizes in the Corner for Students go this month to Aberdeen and Eastbourne. This competition completes the six months' tournament, the leaders of which will be named next week.

THE drug and chemical markets are quiet, opium offering the only feature of speculative interest. The price of this drug has been advancing in Smyrna by several pence per pound daily.

MESSRS. WOOLLEYS, of Manchester, have celebrated their removal to new and larger premises by a picnic of their employés, at which an address was presented to the firm on behalf of the staff.

IN view of the recent vinegar prosecutions Messrs. Alfred H. Allen and C. G. Moor have written for us an article showing what are the definitions generally adopted by chemists, and how far these are justified.

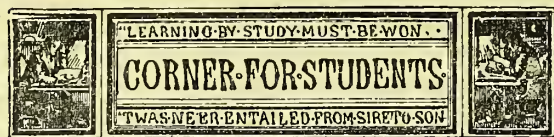
AT the Blackburn County Court a jury has awarded damages to the extent of 104*l*. to the father of a man who died from the effects of fumes inhaled in the preparation of cholride of zinc at a local chemical works.

AN unqualified assistant at Hull has been fined for selling some red precipitate to a customer while on his rounds. The more delicate question of whether he was justified in taking an order for a poison and afterwards delivering it was raised, but not decided.

THE Western Chemists' Association (of London) have taken up the subject of the alkaline waters, and have tried to learn from the principal London makers what is the usual strength of the soda, potash, and lithia waters made by them. The makers seem somewhat coy on the subject.

AN important concession in regard to the compounding or sale of wine-essences by the Board of Inland Revenue is reported by a correspondent. The Board, it appears, will not insist on makers or vendors being licensed so long as the percentage of proof spirit in the preparation does not exceed the percentage of vegetable acid.

THE question of the validity of labels as a defence in cases under the Sale of Food and Drugs Act is discussed in an Editorial article. Our legal contributor gives reasons for considering that a label indicating an incompleteness in a medicinal compound—as, for instance, paregoric without opium—would not suffice as a defence.



CONDUCTED BY RICHARD J. MOSS, F.C.S., F.I.C.

QUALITATIVE ANALYSIS.

A MIXTURE of not more than three salts will again form the subject of the exercise in qualitative analysis. The mixture is to be submitted to a thorough systematic examination, all its constituents are to be detected, and proof must be given that the substances detected are the only constituents of the mixture.

Students' applications for portions of the mixture (accompanied by a stamped and addressed envelope, not a stamp merely) will be received up to Wednesday, June 21, and the samples will be forwarded immediately. It should be understood that in this, as in other competitions, THE CHEMIST AND DRUGGIST recognises no distinction of sex.

Students' reports will be received up to Saturday, July 1. Each report should contain a concise account of the work done, and should include a list of the constituents detected; in this list any substance regarded as an accidental impurity should be distinguished from the essential constituents of the salts of which the mixture is composed.

REPORTS.

The subject of the last exercise was a mixture of 50 parts of ammonium alum, 30 of calcium oxalate, and 20 of potassium nitrate. Its calculated composition was:—

Al	3.03
Ca	7.32
K	7.72
NH ₄	1.98
C ₂ O ₄	16.10
SO ₄	21.17
NO ₃	12.28
H ₂ O	30.40

100.00

The failures in the detection of the several constituents were—aluminium, 4; calcium, 12; potassium, 3; ammonium, 11; oxalic radicle, 17; sulphuric radicle, 1; nitric radicle, 10.

Most of the mistakes this time arose from the presence of an organic salt of calcium insoluble in water. It is true that by boiling the powder with water for some time it was possible to convert the calcium oxalate into calcium sulphate; and if this change were effected, and the soluble and insoluble portions examined separately, nothing occurred to prevent the detection of calcium in the ordinary way. Few of our correspondents, however, continued the boiling of the powder in water long enough to decompose much of the calcium oxalate. Finding the powder not entirely soluble, a few drops of hydrochloric acid were added, and complete solution resulted. When, in the usual course of the analysis, ammonium hydrate in excess was added to this solution, a precipitate was thrown down which contained not merely the aluminium in the form of hydrate, but also the whole of the calcium as oxalate. Accordingly, the filtrate gave no precipitate with ammonium carbonate, from which it was concluded that calcium was absent. The difficulty was similar to that which arises in the presence of a phosphate of one of the alkali earth metals, but it was more

easily dealt with. By evaporating the solution which had been treated with sulphuretted hydrogen, and igniting the residue, the oxalate was decomposed, and it remained only to make a solution of the residue and proceed with the analysis in the ordinary way. The evaporation is a tedious process, and it should, if possible, be avoided; in the absence of organic matter it is not necessary, hence the importance of a careful search for organic compounds in the preliminary examination. With ordinary care the commoner organic compounds are easily detected. Oxalates, especially when associated with a salt which acts on ignition as an oxidising-agent, may take some trouble to detect, but, as we have indicated in the notes to correspondents, this particular case presented no serious difficulty.

PRIZES.

The First Prize for the best analysis has been awarded to

HENRY FRASER, c/o Mr. A. M. Shepherd, 29 Rose Street, Aberdeen.

The Second Prize has been awarded to

THOMAS BROWN, 69 Grove Road, Eastbourne.

Marks Awarded for Analyses:—

Henry Fraser (1st prize) ..	100	R. B. Carnegie	80
Thomas Brown (2nd prize) ..	99	Ornum	78
H. Bowden	98	Pepsine	75
Cogito	97	W. Izon	75
Timothy	96	Rouman	74
Oxymuriate	95	H. T.	75
L. A. Cocker	95	Ramaria	73
Analuo	95	Perseverance	73
Cono	95	Festina Lento	72
Verdant Green	94	P. Harris	68
Phœnix	94	Natal	65
Iodic Hydrarg.	94	Orexin	62
F. W. G.	93	M. F. C. S.	60
Nestor	93	J. C. West	58
J. Ennison	93	W. J. Cox	55
Nux Vom.	92	H. McL. R.	50
Vigovina	90	C. A. W.	47
Zymine	83	Sylvine	45
Cymro	86	C. N. A.	43
Campanulate	84	Victory	40
Nux	83	Vulcan	30
Sylvine	81	Speraudum	25

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half a guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

Note.—All communications should include the names and addresses of the writers.

PHŒNIX.—Having found in the preliminary examination that an oxalate was probably present, you should have evaporated the solution to dryness, and ignited the residue to decompose the oxalate before using ammonium hydrate as a group-reagent.

IODIC HYDRARG.—You do not say how your aqueous solution was prepared. You must have boiled for some time, as it appears from your analysis that the calcium in the insoluble portion was in the form of sulphate instead of oxalate. Barium sulphate has a marked tendency to carry down other salts, notably the nitrate. Consult Fresenius's "Quantitative Analysis" on barium sulphate in the article on the forms in which barium is determined.

F. W. G.—You do not pay sufficient attention to the proof of the absence of other bodies. This is not less important than proof of the presence of the substances detected.

NESTOR.—You did not say whether the precipitate supposed to be due to magnesium was crystalline. If the phosphate was formed in the presence of an excess of ammonia and was not crystalline, it did not contain magnesium.

JOHN ENNISON.—With more time to spare you will do very good work. The smaller text-books will not be of much service to you: you should get Fresenius's "Qualitative Analysis."

NUX VOM.—Your preliminary examination was very incomplete. It was important to detect calcium and the oxalic radicle at the outset. You should aim at greater thoroughness.

VIGORINA.—Your results, except as regards chlorine, were correct, but the work was not sufficiently exhaustive. A great deal more might have been made out of the preliminary examination.

ZYMINE.—It would appear that you did not succeed in decomposing the calcium oxalate by boiling with sodium carbonate. Perhaps you did not continue the boiling long enough.

CYMO.—The precipitate with ammonium molybdate could not have been yellow and crystalline, and the silver precipitate could not have been yellow. You cannot be too accurate in such matters.

CAMPANULATE.—You describe the powder as "soluble in water, but throwing down a white precipitate," and you refer several times to the original solution, but it does not appear that you ever made a solution of the entire powder.

NUX.—You omitted to describe the experiment which proved the absence of ammonium. When the powder was heated there was a sublimate produced, which you ought to have observed.

SYLVINE.—The charring with sulphuric acid must surely have been imaginary; we could detect no indication of such a change. The precipitate produced by the alcoholic solution of potassium acetate consisted of calcium sulphate.

R. B. CARNEGIE.—The smell you attributed to acetic acid was due to nitric acid. The reactions of acetic acid require careful study. Some works have been published on the detection of impurities in salts, but we cannot recommend them: a good handbook on qualitative analysis is a more desirable acquisition. You can generally form a good idea of the impurities likely to occur in a salt if you consider its source and mode of preparation.

ORNUM.—The calcium you overlooked was precipitated along with aluminium hydrate. You may have noticed that the precipitate did not present the usual gelatinous appearance.

PERSINE.—You describe the reddish flame-coloration as "brilliant crimson," but the red flashes you noticed accompanied a very well marked violet coloration, the effect on the whole being quite unlike that produced by a strontium salt.

W. IZON.—Your test for ammonia is a very rough one. The best plan is to mix a portion of the powder under examination with calcium hydrate in a watch-glass, and add very little water—barely enough to make a pasty mass; then cover the watch-glass with a glass plate to which a piece of slightly-moistened red litmus or turmeric paper adheres.

ROUMAN.—The powder was colourless and failed to colour a borax bead: you should therefore have hesitated to conclude that nickel was present.

H. T.—You did not add an excess of ammonium hydrate to the solution which failed to give a precipitate with sulphuretted hydrogen. This was a serious omission. You should always ensure that this reagent is used in decided excess after mixing it thoroughly with the solution, and that you are not deceived by the smell of ammonia arising from a drop on the side of the test-tube or beaker.

RAMERTA.—Owing to the way your report is drawn up it is difficult to say what precipitate and what filtrate you refer to. Your notes should be so arranged as to leave no uncertainty on this point.

PERSEVERANCE.—Your report was quite clear. The presence of calcium oxalate made the analysis difficult for a beginner.

PESTINA LENTE.—It was important to detect the oxalate in the preliminary examination. The fact that the residue from the ignition of the powder dissolved in dilute acids with effervescence, the original powder showing no effervescence, pointed to an oxalate. The evolution of carbon monoxide and dioxide on heating with strong sulphuric acid was another indication in the same direction.

P. HARRIS.—You should practise the ferrous-sulphate test for nitrates. It requires some dexterity. Note particularly the influence of heat.

NATAL.—See above remarks, and those to W. Izon.

OREXIN.—The chocolate-coloured precipitate produced by silver nitrate was simply silver oxide. You had not added enough acetic acid to the potassium-hydrate solution in which you had boiled the powder.

M. F. C. S.—A mixture of salts containing the constituents you detected would be soluble in water. When the results of your analysis do not accord with the physical properties of the substance, you may be sure there is a mistake somewhere.

J. C. WEST.—See remarks to "M. F. C. S."

W. J. COX.—See remarks to "Pestina Lente."

C. A. W.—Instead of proceeding at once to examine a solution of the powder, you should first try a series of simple tests to get a general idea of the kind of substance you have to deal with. The colour of the powder should be noted, its state of division, smell, taste, or any other peculiarity. The effects of heat in a closed tube and on charcoal, the action of strong sulphuric acid, the colour imparted to a Bunsen flame or to a borax bead, are all tests that may be made with minute quantities of the substance, and often afford much information.

SYLVINE.—The powder was not completely soluble in water. See remarks to "C. A. W."

SPERANDUM.—You follow the instructions of your text-book too mechanically. Study the reactions experimentally until you understand them

thoroughly, and you will be in a position to exercise your own judgment. The analysis of mixtures of your own preparation is useful practice. You report a sulphide present: it was a sulphate you detected.

English News.

The Editor is obliged to correspondents who send local newspapers containing items of interest to the trade. He will be further obliged if such paragraphs be marked in all cases.

Carbolic-acid Poisonings.

Another case of suicide, believed to be by carbolic acid, has taken place in Newsham Park, Liverpool. At 1 o'clock on Sunday morning last a man was found in a shrubbery evidently in great pain and groaning, and a strong smell of carbolic acid was detected. He was conveyed to the police-station at Fairfield, and a doctor was sent for. In the meantime Constable McLeod and another officer tried artificial respiration, and this was continued after the doctor arrived; but notwithstanding that everything was done that medical skill could suggest, the man expired, after suffering intense agony, in the afternoon. It has been ascertained that the deceased's name is William Pennell, 38 years of age, and that he resided at Binns Road, Wavertree. He was described as being of independent means, and following no occupation.

On Tuesday night, last week, James Weightman, 72 years of age, an old farming-hand, residing with his sister at Tunstall, was found to have drunk a quantity of carbolic acid at a farmhouse adjoining Herrington Hall, near Newcastle-on-Tyne. Medical aid was obtained, but after lingering a few hours he died. He had got possession of the acid during the day. No reason was assigned for the act.

Wm. Erwood, aged 60, of 31 Grafton Road, Islington, drank some carbolic acid on Tuesday night of last week, and died soon after. Deceased had been suffering from rheumatic gout since Christmas last, and had been receiving 10s. a week from his club for two months past. At the inquest a verdict in accordance with the above facts was returned.

An inquest was held on Monday last at Walworth, concerning the death of a woman named Kate Stead, wife of a labourer, of 112 East Street, Walworth, who committed suicide by swallowing carbolic acid on the previous Sunday. The woman had suffered from a severe attack of influenza, and she never appeared to recover from the effects of it, but often complained of peculiar pains in her head, and said that if they did not get better she was sure she would do something desperate. The husband stated that she was a most abstemious woman, and there was no family or financial trouble to worry her. The Coroner commented upon the great number of deaths attributable to carbolic-acid poisoning, and the ease with which the acid could be obtained by anyone who had an inclination to commit suicide. The jury returned a verdict of suicide whilst of unsound mind.

Fire.

On Wednesday evening of last week a fire occurred under a shop at High Street, Mexborough, where a branch business is carried on by the Goodall Drug Company. The manager (Mr. Downham) and the shopboy were in the cellar, when a quantity of Brunswick black ignited. The faces of both the manager and the youth were very much injured as a consequence, and the latter in his alarm ran hurriedly from the shop to his home. Medical aid was promptly on the spot, and the manager was attended to. It is not thought that his eyesight is affected. The boy was attended to at his home. The damage to the premises was slight.

Charge of Stealing Surgical Instruments.

At the Nottingham Guildhall, on Saturday, Walter Parkes, 25 Raleigh Street, and Albert Smith, 54 Radford Boulevard, Nottingham, were again brought up to answer to the charge preferred against the former of stealing, and the latter of receiving, a quantity of surgical instruments, the property of John H. Haywood, surgical-instrument maker, of Castle

Gate. The prisoner Parkes was in the employ of Mr. Haywood, and Smith was carrying on business as a surgical-instrument maker.

Mr. Haywood stated in evidence that he took possession of 468 packages of goods which were his property on Smith's business premises. The value of them was 750*l*.

Mr. Clayton, for the prisoners, who pleaded not guilty, said the case had been greatly exaggerated, and he would be able to show by invoices that such was the case.

Prisoners were committed for trial, bail being refused.

Poisoning a Viper.

The manager to Messrs. Geo. Atkinson & Co., chemists, 285 Brockley Road, Brockley, had a somewhat unusual case to deal with last week. Mr. J. Sarjeant, of Albion Lodge, Brockley Road, caught a viper in his garden, and, after it had escaped into some rubbish, it was secured and taken in a large glass bottle to Messrs. Atkinsons, where it was poisoned with prussic acid—1½ drachm of the poison being used to kill it—and life was not extinct for over an hour. The reptile was 19 inches long, and had a "V" clearly marked on the head. Curiously enough, on the following day, a viper was caught at Dartford. In this case the reptile, which was 21 inches in length, was despatched in a more summary manner with a stick, its back being broken; after which it was preserved in spirit.

Midland Pharmaceutical Association.

At a meeting of the Council of the above Association, held at the Mason College, on Friday, June 9, the following appointments were made for the ensuing session:—President, Charles Thompson; Vice-Presidents, William Jones and R. Darton Gibbs; Hon. Treasurer, Chas. J. Arblaster; Hon. Librarian, Geo. E. Perry; Hon. Secretary, T. W. Lowther; Hon. Auditors, E. Corfield and T. L. Reeve. Councillors for the Parliamentary Division of Birmingham and Aston:—No. 1, Edgbaston, E. P. Ferriday and G. E. Perry; No. 2, West, F. H. Prosser and T. Wakefield; No. 3, Central, Chas. J. Arblaster and Thomas Barclay; No. 4, North, M. Magor and J. Poole; No. 5, East, J. T. Cattell and A. Southall; No. 6, Bordesley, S. Dewson and C. Thompson; No. 7, South, F. Barlow and T. W. Chapman; No. 8, Aston, F. H. Alcock and Wm. Jones; Coventry, J. Hinds; Leamington, J. T. Barrett; Warwick, H. Pratt; Dudley, G. T. Owen; Oldbury, R. D. Gibbs; Wolverhampton, F. J. Gibson; Walsall, J. O. Morris; Wednesbury, G. Morris; Stourbridge, W. R. Lellick; Stafford, J. Averill; East Worcestershire, W. Corbett; Handsworth, C. F. Jarvis; Tamworth, T. B. Alkins; Lichfield, J. J. Perkins.

The Sale of Cattle Foods and Fertilisers.

Mr. H. Gardner, M.P., the Minister of Agriculture, has in hand a Bill to amend the law concerning the sale of agricultural fertilisers and feeding-stuffs. With respect to the former the Bill provides that every person who sells for use as a fertiliser of the soil any article manufactured in the United Kingdom or imported from abroad shall give to the purchaser an invoice stating, as nearly as he can, the percentage of the nitrogen, soluble and insoluble phosphates, and potash, if any, contained in the article. The invoice is to have effect as a warranty by the seller of the statements therein. With respect to food for cattle there shall be implied a warranty by the seller that the article is suitable for feeding purposes. Heavy penalties are provided for breach of these regulations.

Commemoratory Picnic.

To celebrate the completion of their new warehouse and offices at Victoria Bridge, Manchester, Messrs. James Woolley, Sons & Co. on Saturday last entertained their employés and their wives, to the number of upwards of 200 persons, to a day's picnic at the Dukeries and Sherwood Forest. The party left London Road Station by special train of saloon carriages at 8.30 A.M., and reached Worksop shortly after 10 o'clock. The members of the firm accompanied the party, with the exception of the senior partner, Mr. G. S. Woolley, who followed later in the day. Carriages were waiting at Worksop Station to convey the party to the Town Hall, where breakfast was served. The sixteen conveyances next proceeded to Edwinstowe, through the fine estates of

Clumber and Thoresby. At Edwinstowe a stoppage was made to await the bulk of the party who had made a *détour* of about two miles to view the Major Oak, which is said to be capable of holding twenty persons in its interior. The next halt was made at Welbeck, the seat of the Duke of Portland. Here Mr. G. S. Woolley met the employés, who hailed him with a hearty Lancashire greeting. The whole group having been photographed, a start was made for Worksop, arriving there in time for dinner at 5 P.M.

After dinner Mr. Woolley proposed the toast of "The Queen," and following that, Mr. A. Balmforth, the senior representative of the firm, asked the company to drink to the health of the members of the firm and the continued prosperity of the business. When he looked at his 170 fellow-workers gathered there, he said, he recalled the time when the number employed could almost be counted on his fingers (there were eleven of them, with Mr. George Stephen Woolley at the head to make up the dozen). The increase appeared almost incredible, and he hoped a like measure of prosperity would ensue in the future. He then presented to the firm an illuminated address of congratulation, expressed as follows:—

COMMEMORATORY ADDRESS

TO

MESSRS. JAMES WOOLLEY, SONS & CO., MANCHESTER.

DEAR SIRS,—We, your employés, desire to congratulate you on the completion of your new warehouse and offices at Victoria Bridge, and we further desire to place on record our hearty appreciation of the kindly as well as commercial considerations which have actuated you in providing and elaborating this noble building, in which we recognise many evidences of your thoughtful care for our comfort and welfare.

We are proud of the building as a monument of your enterprise and an ornament to the city, and we sincerely trust that the characteristic energy of the firm may be rewarded in the future as in the past with ever-increasing prosperity and success.

Presented on the occasion of the commemoration picnic to Sherwood Forest, June 10, 1893.

T. GAVIN, *Cashier*.

A. BALMFORTH, *Senior Representative*.

WILLIAM LANE, *Manager*.

JAMES SPILSBURY, *Works Manager*.

In reply to the toast, Mr. G. S. Woolley said it had always been his endeavour to secure the goodwill and support of his employés. He had always been of the opinion that he had been successful in this respect, but the extent of his success had never been so thoroughly brought home to him as it had been on that occasion by the cordiality with which he had been received. He recalled two special occasions when the staff had supported the firm with exceptional loyalty. The first was on the occasion of the fire in 1872, and the second occasion was when they removed to the new premises. This was a task of considerable difficulty, and was looked forward to by the firm with some anxiety. The members of the staff, however, were equal to it, and all worked with so much energy that the new premises were ready for business on the day appointed. It was to celebrate this opening that the excursion was arranged by the firm as some acknowledgment to the staff of appreciation of their hearty and valuable assistance. For the magnificent commemorative address they had presented to the firm he tendered them his heartfelt thanks.

Mr. Hermann Woolley proposed "The Staff," for which Mr. Lane and Mr. Spilsbury responded.

The party then moved on to the station, and reached Manchester at 9.15.

Soda-water Without Soda.

At a recent meeting of the Western Chemists' Association (of London), the President (Mr. W. Martindale) introduced the subject of the recent prosecution of licensed victuallers for selling soda-water which did not contain soda, and a discussion followed, the general feeling being that the official standard (liq. sodæ effervesc.) could not be generally sold as soda-water, but that it and also potash-water should contain some amount of the respective alkalies, and that lithia-water should always be of the official strength. Ultimately one of the Hon. Secretaries was instructed to write to the principal London manufacturers upon the subject, and consequent

upon this resolution the following letter was sent to five of the leading firms:—

The Western Chemists' Association (of London),
34 Leinster Terrace, Lancaster Gate, W.,

April 24, 1893.

DEAR SIR,—On account of the recent prosecution of a person who was fined for selling soda-water which did not contain bicarbonate of soda, I am instructed to write, asking you kindly to inform me—What is the average quantity of bicarbonate of soda and potash respectively contained in the half-pint of the aerated soda and potash water you are in the habit of supplying to chemists for ordinary retail sale; and, in regard to lithia-water, whether you adhere to the formula of the British Pharmacopœia.

I am, dear Sir, yours faithfully,

FREDERICK ANDREWS, Hon. Sec.

To this letter three replies were received. One firm stated that they were informed by their solicitor "that their waters were well within the conditions prescribed by the Food and Drugs Act," and that their lithia-water, being a medicinal water, was prepared according to the directions of the Pharmacopœia. Another firm said: "We have invariably supplied potash and lithia water of full Pharmacopœia strength, unless specially ordered to do otherwise. With regard to soda-water, the reverse practice obtains, and we never supply liq. sodæ effervescens unless specially asked for. We can hardly strike a fair average, but should say that we supply more soda-water with less than 5 grains for $\frac{1}{2}$ pint, than with more than 5 grains." A third wrote: "We manufacture two kinds of soda and potash water, one containing 5 grains, and the other 15 grains to each $\frac{1}{2}$ pint." Lithia-water, of course, we manufacture according to the B.P. One leading firm did not answer by post, but a representative called upon the Hon. Secretary and stated that his firm would not guarantee any specific amount of chemical, not even lithia, in their waters, but were prepared to supply any strength required upon receiving an order for six dozen.

At the last meeting of the Western Chemists' Association the correspondence, &c., was read, and much commented on, and the Hon. Secretaries were instructed to send a report to the pharmaceutical Press, with the hope of getting further information, and perhaps eventually a uniform line of procedure; the majority of those present thinking that two preparations of soda-water—one for general use, of 5 grains, and one of 15 grains to the $\frac{1}{2}$ pint, for medicinal use—would be satisfactory.

The Photographic Salon.

Under this title an exhibition of artistic pictorial photography is being organised. The committee which has the undertaking in hand includes the leading exhibiting photographers, both professional and amateur. The idea is to remove the doubts expressed sometimes as to the power of photography to make artistic representations of nature, &c., by an exhibition consisting of framed pictures corresponding to the galleries of art as created by the brush and palette. The new "Salon," which will include foreign as well as native production, is to be opened from October 9 to November 11, 1893, at the Dudley Gallery, Piccadilly.

Chemicals for London.

The London County Council have accepted tenders for chemicals used in treating sewage as follows:—18,000 tons of lime at 13s. 9d. per ton, by Messrs. Hall & Co.; 2,000 tons of lime at 15s. 6d. per ton, by the Buxton Lime Firms Co. (this to be delivered at the Barking outfall); 5,000 tons of protosulphate of iron at 21s. 9d. per ton, by Messrs. T. Herschel, Jones & Co.; 1,700 tons of sulphuric acid at 37s. 6d. per ton, by Messrs. J. M. Steel & Co.; and 1,500 tons of manganate of soda at 14s. per ton (or any less quantity at 14s. 8s.) by Messrs. C. Tennant, Sons & Co.

Alleged Embezzlement.

Alexander Miller Dunnett (35), a traveller in the employ of Mr. G. C. Wolff, chemical-manufacturer, of Calvely Grove, Holloway, was charged before Mr. Bros, at North London Police Court, on Wednesday, with embezzling 1l. 1s. 1d., received by him for and on account of his employer. The prisoner, who resided at Hazelbury Road, Fulham, received the sum in question from Mr. Alfred Leader, of Market Place, Fulham, but did not hand it over to Mr. Wolff or his clerks. Proof of this was given, and the prisoner, in admit-

ting that he had received the money, pleaded that he had been hard pressed, and had used the cash in question, but with every intention of repaying it. He pleaded that he had never been in trouble before, and that he had a wife and family dependent upon him. Mr. Bros remanded the prisoner in custody for a week.

Sudden Death of a Chemist.

An inquest was held at Hereford, on June 10, relative to the death of Mr. George Walter Stephens, chemist, Commercial Street, Hereford, who died on the previous day. The deceased gentleman had been suffering a great deal from a congested liver, especially in the spring; he had also complained of pains in the head, and during the last week of feeling faint. On Friday of last week he had a fainting-fit, and was found lying on his face. He breathed a few times and then died. Dr. Smith said death was due to sudden failure of the heart's action, and a verdict in accordance was returned.

Botanical Practice.

A class for the study of the botany necessary for the Minor has been formed in connection with the Leicester Chemists' Association. Mr. Elliott conducts it. There is an attendance of fourteen, and the members have the use of the botanical beds in the Abbey Park, which are now in a very complete condition.

On June 7, the students of the Sheffield College of Pharmacy went by train into Derbyshire for a botanical excursion. The place selected was Wingfield Manor, 22 miles distant. Amongst the specimens collected were the following:—*Potentilla reptans*; *Nolva rotundifolia*; *Chelidonium majus*; *Tamus communis*; *Medicago lupulina*; *Stellaria nemorum*; *Stellaria media*; *Ithnanthus Crista-galli*, &c.

The Allegations against a Non-poisonous Disinfecting-fluid.

On June 7 the inquest on the death of Charles Wright, at Lancaster, referred to in previous issues, was concluded. It will be remembered that the case was one of typhoid, and that the deceased in a suicidal fit first attempted to cut his throat and then drank some ounces of the Thorncliffe disinfectant prepared by Messrs. Newton, Chambers & Co., Thorncliffe, near Sheffield. The point on which the inquest had been adjourned was whether this large quantity of the disinfectant, claimed to be non-poisonous, had brought about the fatal issue. Supplementary to a quantity of evidence showing that the fluid could be taken internally without injury, Dr. Stuart P. Hallows, Edinburgh, stated that he had used and prescribed the disinfectant pretty extensively for the past four months, and believed it decidedly non-poisonous. He had taken it himself in quantities up to 3 fl. oz. in the twenty-four hours without the slightest effect, except a slight burning sensation on the tongue and a disagreeable taste in the mouth. He believed that if the fluid had contained anything like carbolic acid, and the man had drunk 4 oz., he would not have lasted twenty-four minutes, much less twenty-four hours, after.

William Abbot, managing-clerk in the employment of the firm, said he had been in the habit of taking the fluid in doses of 10 to 35 drops, for bronchial weakness, for about two years.

George Ellinor, pharmaceutical chemist, Sheffield, had taken the disinfectant himself, and prescribed it for several members of his family.

A farmer named Berkenshaw also gave evidence that he had taken the preparation in teaspoonful doses (diluted) for about two years.

Drs. Hamilton and Parker, on re-examination, maintained their opinion that death was due to poisoning, and not to intestinal perforation. They admitted that two days later decomposition had begun in the body. They urged that these symptoms were consistent with irritant poisoning only.

In addressing the jury, Mr. Clegg, representing the manufacturing firm, pointed out, besides this, (1) that the fluid had been shown to be free from carbolic acid, and (2) that there was no *post-mortem* to decide whether the intestines were ruptured or not. He suggested that the medical men had been misled by over-haste in forming their opinion, and that death was really due to relapse and rupture brought

about by the deceased getting out of bed to obtain the bottle of disinfectant. He also called attention to the excessive quantity of the fluid taken by a person exceedingly enfeebled by disease and loss of blood (from the abortive attempt to cut his own throat), and thought it very unjust, under these circumstances, to charge the death upon the disinfectant.

The jury, after the Coroner's summing-up, were absent about half an hour, and then returned with a verdict that death was due to typhoid fever accelerated by the throat-wounds, by the deceased getting out of bed, and by the overdose of the Thorncliffe disinfectant-fluid.

Irish News.

A Laboratory for Limerick.

The Corporation of Limerick notify their intention of instituting a laboratory in the city and appointing a local analyst at a fixed salary, the amount of which is not yet, however, stated.

A Stupid Hoax.

A tin canister was found last week in the corridor of the Exchequer Court during the sitting of the Judges containing, according to a sensational account published in the *Independent*, explosive material sufficient to destroy everything within a radius of 60 feet. The machine, it was declared, had been taken to the establishment of Mr. Samuel Boyd, chemist, Mary Street, where it was examined by an explosive expert, who pronounced its contents to be fulminate of mercury. A few hours later an official contradiction declared the contents to be a toy watch, a few toy detonators, and the tinfoil covering of a vaseline-bottle. The reference to an examination by Mr. Boyd is declared to be a fabrication, and the entire case treated as a juvenile's practical joke.

Scotch News.

Fire.

Late on Monday night, June 5, a fire was discovered in the shop of Messrs. Rankin & Borland, chemists and druggists, Kilmarnock. The fire originated in the back shop near the fireplace, and spread to the shelves above. These and all the articles on them were completely destroyed. The origin of the fire is unknown. The damage is estimated at about 300*l*.

A Chemists' Excursion.

The arrangements have now been completed for the Aberdeen chemists' annual outing, on Wednesday, July 5, and are as follows:—Leave Aberdeen by 8 P.M. ordinary train for Ballater, where conveyances will be in waiting to convey the party to Braemar. Dinner will be served in the Invercauld Arms Hotel on arrival. After dinner there will be time to visit places of interest in the neighbourhood. Tea will be served on return to Ballater, and the excursionists will return to town by the evening train. Tickets, exclusive of railway fare, 8*s*. each.

Penalties Under the Medicine-stamp Act.

The Inland Revenue officers have fined several dealers at Aberdeen under the Medicine-stamp Act. One has had to pay 6*l*. and another 2*l*.

Pauper-medicines in Aberdeen.

Seven tenders were received from chemists in Aberdeen for the supply of medicines to the St. Nicholas Parochial Board for the year ending May 15, 1894. The figures were as follows:—1*s*. 2*d*., 1*s*., 11½*d*., 11½*d*., 10*d*., 9½*d*., and 5½*d*. per pauper per annum. The specifications for this contract are framed so widely as to include not only medicines and medicaments but medical and surgical appliances.

French Pharmaceutical News.

(From our Paris Correspondent.)

A LABORATORY OF VEGETABLE PHYSIOLOGY has just been established, in connection with the Paris Faculty of Sciences, under the directorship of Dr. Jumelle.

AT THE PASTEUR INSTITUTE, M. Haffkine has resigned his position in the laboratory of Physiological Chemistry, and is replaced by Dr. Nicolle as preparer of technical micrology.

"LOCUST OIL."—During a recent visit to Algeria M. Raphaël Dubois has succeeded in obtaining a certain quantity of oil from the eggs of locusts. He is at present experimenting in Paris with a view of discovering if this oil can be employed in industry or therapeutics. If anything can be done to induce the natives to collect the eggs of locusts, it might have a beneficial effect in reducing a perennial plague.

OXALATE OF COBALT IN PHOTOGRAPHY.—Ever to the front in matters connected with photography, Professor Lippmann, on behalf of M. M. Lumière, drew attention, at the Academy of Sciences, last Monday, to the advantage of using salts of cobalt in Photography. The Lyons chemists find that oxalate of cobalt can be used advantageously to replace chloride of silver in the production of positives on paper. By its use proofs are obtained with greater rapidity, and are particularly clear. The manipulation, washing and printing are also simplified.

THE PHARMACISTS OF NICE have started a mild agitation against the Public Dispensary in that town. They consider that the latter forms an important competition to the legitimate trade, and they assert that medicines are made up by unqualified men. The dispensary is open from 6 A.M. to 6 P.M. only, besides being closed entirely on Sundays, consequently the poorer classes are unable to obtain medicaments during ninety-six hours each week. It is proposed that all pharmacists shall dispense prescriptions for outdoor-relief patients at a fixed low tariff. The local press has interested itself in the matter and supports the trade.

AN ENTERPRISING PHARMACIST of a town near Paris has hit upon an ingenious idea for extending his trade by developing the system of enlisting the services of the medical profession. He has issued a circular which reads as follows:—"The cost of advertising my special products, pills, cosmetics, perfumes, &c., entails an outlay of 100,000*f*. per year, and the sale is not enormous. On this account I propose interesting doctors in my goods, feeling certain that the result will be more efficacious." Then, reflecting that even if he only has a thousand adherents to his scheme the profit of 100*f*. to each would be very small, he proposes to start a lottery. Those amongst the 16,000 practitioners in France, who will engage to prescribe the products of the pharmacien in question to the exclusion of all others, will have their names inscribed in order, and a ticket for the lottery will be sent to them. The circular goes on: "At the expiration of each year a drawing will be held under the control of a committee of doctors, and ten numbers will be taken—the first will have 50,000*f*., the second 10,000*f*., and the eight others 5,000*f*. each." French doctors are not indifferent to the shakels, but it remains to be seen if their professional dignity is compatible with a scheme of this kind.

A NICE DISTINCTION.—A Paris paper vouches for the following story: "A young doctor, doing for the first time his twenty-eight days' military service as assistant-surgeon, was on guard, when he was informed that one of his patients, a private soldier, was dead. According to his instructions he made out his return, and wrote opposite the dead man's name, 'deceased.' The surgeon-major on reading this, fairly boiled over with rage, and said to his 'aide,' 'What have you stuck there?' pointing to the obnoxious entry. 'Why, only what has happened,' replied the unfortunate assistant. 'It's a lie! sir. A soldier is *never* deceased. He dies. It is only in regard to officers that one may say deceased,' roared the irate major, and ordered his 'aide' two days' confinement to barracks for his disregard of class distinction."

Foreign and Colonial News.

CONVERSION OF A GENEVA CHEMICAL-WORKS.—The chemico-pharmaceutical business of A. Sauter, Geneva, is to be transformed into a limited company. It is intended to issue 1,200 shares of 500f. each, representing a capital of 600,000f. The net profits of the business of late years has amounted to from 75,000f. to 77,000f.

FIRE IN SCHERING'S CHEMICAL-WORKS.—On the evening of June 6 fire broke out in the above-named works, Berlin, starting, for the most unexplained reason, in a drying-room on the second floor of one of the buildings. Owing to the system adopted of separating the works into sections by fire-proof walls the fire was quite a local one, and was got under in a few minutes. No noteworthy hindrance to the work will be occasioned by the accident, nor were any valuable goods destroyed.

THE GERMAN CHEMICAL INDUSTRY.—The Badische Anilin und Soda Fabrik has declared a dividend of 27 per cent. for the past year, being the largest profit made by the company since its incorporation. The 600m. shares are now quoted at 2,000m., and during the last thirteen years the capital has been returned twice over in dividends. The Consolidated Alkali-works, Westeregeln, made a profit last year of 2,030%. The Rhenania Chemical-manufacturing Company, at Aix-la-Chapelle, has declared a dividend of 15 per cent. for 1892.

"SODA-WATER" IN INDIA.—The *Indian Medical Record* wants the authorities in India to proceed against the sellers of so-called soda-water in the manufacture of which no soda has been used. According to our contemporary it has been estimated that the various aerated-water manufacturing houses in Calcutta alone sell as many as 240,000 bottles of soda-water every day in the hot season, and it is said that not a single grain of soda enters into the manufacture of the gas used by a single one of the factories of the city, though every one of the houses label their aerated water "Soda-water."

A BRANCH OF THE HYGIENIC INSTITUTE, HAMBURG.—This is one of the latest schemes of the Town Council, and it asks the ratepayers to support it to the tune of 46,000m. A further expenditure of 7,000m. will be required for the equipment of the branch, while an assistant for eight months will be salaried at 1,800m., and other expenses, including scientific aid, are estimated at another 7,000m. for the same period. It seems, also, that an additional assistant is required for the parent institute, who is to receive a yearly salary of 2,700m., and hold the post subject to a quarterly notice on both sides.

THE MOUSE-BACILLUS.—When it was found that Löffler's bacillus destroyed 400 field and house mice inoculated and fed in captivity, it was hoped that a more efficient and less dangerous substitute had been hit upon for phosphorus preparations. Experiments on a larger scale with vermin living under natural conditions were, however, much less satisfactory; though 10,000 inoculated pieces of bread were twice set out in the fields the mice proved superior to the bacillus, partly, no doubt, because the animals were more resistant than those kept captive, and partly because they could not be sufficiently inoculated.

OLIVE-GROWING AND OIL-PRESSING IN MOROCCO.—The large olive-groves of Southern Morocco, especially in the province of Soos, and in the districts round Morocco city (Marakesh) and Demnat, afford in prosperous years abundant crops of olives of fair quality, forming a very important item in the export lists of the country. Owing to damage to trees by locusts and other causes, the yield in 1892 was inferior, and only a value of 5,460% was shipped, against 43,890% in 1891 and 138,720% in 1890. It is noteworthy that some Europeans are beginning to turn their attention to the oil pressing and refining industry; one English and one French press are already working at Mogador, while another French one, on rather a large scale, has been established at Morocco city, and is in brisk working-order. There appears to be no reason why this oil, if properly refined, should not rival some European qualities.

AUSTRALASIAN NEWS.

The following notes are based upon information contained in the May number of the *Chemist and Druggist of Australasia*:

OPIMUM AND ABORIGINES.—The Queensland police have been successful in bringing to justice a Chinaman for selling opium and supplying it to the aborigines. The defendant was fined 7l. 10s. for the offence. There has been a good deal of what is euphemistically described as "trouble with the blacks" in Queensland lately through the too free use of opium by the black men.

THE EUCALYPTUS-OIL INDUSTRY.—Advices from Kangaroo Island, South Australia, say that three of the eucalyptus-oil factories there have been closed, the reason in one case being given as the low percentage of oil in the leaves at this time of the year, and, in the others, the small demand for the oil. The Maryvale Eucalyptus Factory, about two miles from Melbourne, which was reported to have been closed on account of the stoppage of sale for the oil in London, is still open, though some of the hands have been discharged, and continues to receive and execute orders.

PODOPHYLLUM AS A CURE FOR FLUKE IN SHEEP.—Podophyllum-root is being employed in Australia as a cure for fluke in sheep. It is used in the form of a decoction prepared by boiling 1 oz. of podophyllum-root in 2 quarts of water till reduced to 1 quart. The dose for each sheep is two tablespoonfuls on an empty stomach, to be repeated in three days. A sheep-breeder in Victoria, who is the original authority for the treatment, says that some sheep that he has dosed, which appeared to be very badly affected, showed no signs of fluke when killed some months after. Dry spots in the liver showed where the parasite had been. A pound of the root is said to be sufficient to dose 250 once. Professor Steel gives the dose of the powdered root at 6 grains for a sheep.

ESSENTIAL-OIL STILL LICENCES.—Distillers of eucalyptus oil and pharmaceutical preparations in Victoria are required to take out a licence from the Customs Department. The list of those who have done so has been printed in a recent *Gazette*. Apart from those who hold licences for distilling spirits for sale and for fortifying wines, sixty-eight still-licences have been issued. Forty of these are for distilling eucalyptus oil, one for essential oils, three for perfumes and perfumed oils, and one for oil from herbs and flowers. Pharmaceutical and medical preparations are distilled by three people, one of whom adds ammonia. Two others distil ammonia and chemicals, and one ammonia and acetic acid. Chemicals and chemicals and oils each have one distiller; three make acids, three distil water, and one of these especially for assaying purposes. One each give the object of their licences as to distil tallow and oils, tallow and glycerine, and stearine. Two distil tar, and two oils from resins; one distils water from milk, the real manufacture being, probably, concentrated milk; and another distils tanning-liquor from timber.

FLOODS IN NEW ZEALAND.—The Wellington district of New Zealand has been suffering from floods, which, though infinitesimal as compared with those which have devastated Queensland, have yet caused considerable damage. Almost the whole of Petone was flooded to a depth of from one to sixteen feet, with the Hutt river up to within three feet of the floor of the bridge—a height it has never reached before—and running at a tremendous rate, sheep and cattle being carried down wholesale. Mr. Sykes, the chemist at Petone, was inundated before he could remove anything. The water rose to a depth of about four feet in his house and shop, and was six or seven feet deep in yard and outbuildings. He estimates his loss at between 50% and 60%. The chemists in Wellington escaped with here and there a flooded yard and out-store. Mr. F. W. Maddox, head salesman at the local warehouse of Kempthorne, Prosser & Co.'s New Zealand Drug Company, who is also a member of the Pharmacy Board, had the misfortune to break his leg when riding out to the Hutt. Mr. Weston, late of Sharland & Co.'s Wellington branch, and his wife, both very seriously ill with cancer, live at Petone, and had to be removed from their flooded house with very great difficulty.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on Wednesday, June 7, at the Society's House, 67 Lower Mount Street, Dublin, at 3 o'clock. Present: The President, Mr. William Hayes, in the chair; the Vice-President, Mr. Beggs; and Messrs. Conyngham, Surgeon Merrin, Professor Tichborne, Dr. Burnes, Wells, Grindley, Charles Evans, Boyd, and Downes.

THE RECENT LEGAL PROCEEDINGS.

The PRESIDENT said most of them were aware of the results of the prosecutions instituted by the Council in the police courts on Friday, June 2. The case of Messrs. Leverett & Frye was tried in the Northern Court, before Mr. O'Donel, who, although evidently not the Society's friend at the beginning, after they had shown the justice of their case, imposed fines of 5*l.*, with 2*l.* costs, in each of the three summonses against the defendants. The case of Mr. Thomas Leonard was tried in the Southern Court before Mr. Swifte, and the defendant pleaded guilty, but said that after he received the Society's cautionary notice he endeavoured to carry out the requirements of the law by getting Messrs. Boileau & Boyd, who were his wholesale druggists, to remove from his establishment everything that he could not lawfully sell, and that it was without his knowledge that anything of that kind had remained on his premises.

Mr. WELLS said that from the story Mr. Leonard first told them, it seemed that he had been very hardly dealt with, but when he got into the box he did not make exactly the same statement.

The PRESIDENT said the following letter had been received from Mr. Leonard:—

To the Council of the Pharmaceutical Society of Ireland.

GENTLEMEN,—In reference to my case, which came before the Southern Police Court this day, I beg respectfully to petition for the remission or reduction of the penalty, 5*l.*, passed by the Magistrate, on the following grounds:—

That immediately on receipt of your notice I gave directions to my assistants to return every article that could possibly come under the Act, which was faithfully carried out, except in the case of "Kay's Essence," which was labelled that its sale was free from restrictions of Pharmacy Act. This notification caused my assistant not to return it with the others, hence the sale complained of. It is much to be regretted that manufacturers should be permitted to mislead traders by issuing such erroneous labels. I certainly would be the last to infringe knowingly on the Pharmacy Act, of which I fully approve and consider beneficial to the public. I beg also to state that I did not enter into any contentious arguments in the case.

Trusting in your most favourable consideration of the case,

I remain, yours faithfully,

64 Upper Clanbrassell Street, June 2, 1893.

FRANCIS LEONARD.

What was stated in that letter—the President remarked—was not quite in accordance with what was proved before the Magistrates. It might be that both the statements were correct. He (the President) had also received a letter from Mr. T. J. Wilkinson, the manager of Messrs. Leverett & Frye's chief office, 36 Grafton Street, Dublin, which he would read:—

June 3, 1893.

SIR,—I have a letter from our Mr. Frye this morning expressing his regret that any medicines containing poison should have been sold at any of his branches in the city, which, as you are already aware, was contrary to his express instructions. He, however, feels rather surprised that your Society did not prosecute as far back as February last, when the first offence was committed, and which would have given him an opportunity to have prevented any further cause of complaint, and assisted him in the prevention of his local managers acting contrary to the instructions. He all the more feels strongly on this matter having regard to the interest he has taken in the chemists' behalf in Parliament.

In view of Mr. Frye's letter, intimating that he will hold the managers at Amiens Street and Sandymount responsible for the violation of his instructions, perhaps, having regard to all the circumstances of the case, your Society might take the matter into consideration, and have the fines reduced.

Yours truly,

T. J. WILKINSON.

W. Hayes, Esq., President of the Society.

He (the President) saw Mr. Wilkinson, who expressed great disappointment that the Society had not informed him of th

matter before taking proceedings. He said he was not aware that they were acting illegally in any way; and that as soon as Mr. Frye's instructions were received from London, everything that it was not legal for a grocer to sell was, as far as he was aware, packed up; and that the managers at the other establishments acted quite contrary to the instructions they received from Mr. Frye. He also said that no cautionary notice had been received, to his knowledge, at Grafton Street, and Mr. Ferrall informed him (the President) that none were sent to Sandymount or to Amiens Street.

Mr. WELLS: Why should we send? We had a right to assume that the head office would control the others. According to the evidence given in the police-court each branch published its own catalogue. A notice was served in July last, and the Grafton Street catalogue, which was printed in the following December, and which contained several of these articles, was produced in the police-court. The Sandymount man swore that he knew nothing about that catalogue, yet up to April they were selling those things. Mr. Frye spoke of the interest he took in the Pharmacy Amendment Act; but one of the things he did was to ask the Government to give grocers and others facilities for selling these things, his view being that it was very hard on them as well as inconvenient to the public that the right of selling these matters should be restricted to the chemists. He (Mr. Wells) desired now to report that at the request of the President he went to Tullamore, accompanied by Mr. Ferrall, the Registrar, and their solicitor, Mr. Clay, for the purpose of prosecuting a leather-merchant, named Quirke, who carried on business there, for illegally keeping open shop for the dispensing of prescriptions. Eighteen months ago a cautionary notice was served on him by the Society. He thereupon formed what he called a "limited liability company," by taking his wife, his daughters, and several of his family into partnership, the capital being very small. At the hearing of the summons his legal adviser relied on a decision of the House of Lords that it was open to a limited company to dispense prescriptions provided they had—as he had—a qualified assistant; and he contended that the English and the Irish Pharmacy Acts were so similar that there was nothing in the latter to exclude the operation of that decision in Ireland. The three Magistrates held that the two Acts were so like that they did not see their way to departing from the decision of the House of Lords, and they declined to convict. At the request of Mr. Clay, however, they consented to state a case for the Superior Court, and the Law Committee were perfectly satisfied with that, because they hoped now to get a decision which would prevent such trading companies from compounding and dispensing.

On the motion of Mr. WELLS, the letters from Mr. Leonard and Mr. Wilkinson were referred to the Law Committee.

SERVICE ON JURIES.

Professor TICHBORNE asked that the Calendar of the Society containing its list of members might be regularly sent to the Collector-General, in order that members might secure an exemption from being summoned on juries.

The PRESIDENT: I was summoned on two juries—one as a petty and the other a grand juror—and I got off the petty jury on applying to the Judge. Any gentleman who wishes to be kept off the jury-lists had better join the Jurors' Association.

The Registrar was directed to see that the Calendar was regularly forwarded to the Collector-General.

AN AIRY OFFER.

A circular was received from the Smithsonian Institution giving information as to the Hodgkins Fund prizes. In October, 1891, Mr. Thomas George Hodgkins, of Scitanket, New York, made a donation, the income from a part of which he directed to be devoted to the "increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air as affecting the welfare of man." From this fund prizes of 2,000*l.*, 400*l.*, 200*l.*, and a gold medal are offered for the best essays and treatises on atmospheric air.

DRUGGISTS' EXAMINATION.

Letters were read from Mr. Sunner and Mr. R. S. Baker, of Cork, intimating that they had arranged to hold the special examination for registered druggists in Cork, on June 13, at the Queen's College, Cork.

Mr. WELLS said that date would not give fourteen clear days after the last application had been received.

Mr. BOYD said he thought it would be well if these examinations were advertised in the local papers.

The PRESIDENT: There is no reason for advertising them in Cork any more than in Dublin.

Mr. BOYD: If the dates of all our examinations were put in the Calendar it would dispense with the necessity for any advertising.

The Registrar was directed to write stating that the examination could not be held earlier than June 20.

NO REDUCTION.

A letter was read from Mr. S. M. Martin, asking, on behalf of some gentlemen who were joining the Society, that a portion of their entrance-fee should be remitted, corresponding to the portion of the year already expired.

Mr. GRINDLEY: I don't think any society splits up its registration-fee in that way.

The Registrar was directed to write to Mr. Martin explaining that gentlemen joining the Society in the month of July would have all the privileges of membership for the three months intervening between that date and October, when the Society's financial year terminates, and the twelve subsequent months, for the one fee.

DONATIONS

were received from the Smithsonian Institution of a copy of the report of the United States National Museum for 1890; and from the Pharmacy Board of Victoria of a copy of their annual report for 1892. Thanks were voted to the donors.

A REPORT FROM THE SCHOOL COMMITTEE

stated that at its meeting on May 10 an application from the Professor to be allowed to give extra hours' instructions to two students had been disallowed, because one of them had not begun attendance at the class sufficiently early to get a full three months' course before the July examination. At a meeting of the committee on May 31 it was resolved that Messrs. Wells and Grindley should draft a scheme for carrying on the school.

Professor TICHBORNE asked the permission of the Council to give the extra hours to the two candidates mentioned. The Professors were willing to give the extra time and trouble that it would involve to them without any additional expense to the Society.

On the motion of Mr. EVANS, seconded by Mr. WELLS, the leave was granted.

ELECTIONS.

On the motion of Mr. WELLS, seconded by Mr. GRINDLEY, Mr. J. T. Turner was nominated for membership of the Society.

On the motion of Mr. HODGSON, seconded by Mr. WELLS, Mr. James W. Johnston, of Belturbet, was nominated as an associate druggist.

Some financial and other business having been disposed of, the Council adjourned.

NOTICE OF EXAMINATIONS.

A quarterly pharmaceutical Preliminary examination will be held on Monday, July 3. The last day for applying for same will be Monday, June 26.

Quarterly pharmaceutical Licence examinations will be held on Wednesday, Thursday, and Friday, July 5, 6, and 7. The last day for applying for same will be Wednesday, July 21.

Note.—Declarations (on forms to be obtained from the Registrar) will be required from candidates instead of the certificates of practical pharmacy formerly received.

DON'T advertise in a half-hearted listless manner; word your advertisement, says Kellogg, and run it with a determination to reap good results. Don't go into a medium doubting its efficiency, but make up your mind before using that it is well calculated to serve you. If anything in the world is worth doing well advertising is that thing. Doubt and uncertainty as to results should never accompany an order. A thorough knowledge of just what one is driving at, in this line of business, is indispensable. Without it there can be no faith or hope in the outcome.

Pharmaceutical Society of Great Britain.

NORTH BRITISH BRANCH.

A MEETING of the Executive of the North British Branch was held in the Society's Rooms, Edinburgh, on June 8. Mr. J. Laidlaw Ewing occupied the chair, and the following other members were present:—Messrs. J. B. Stephenson, G. Lunan, and A. Gibson, Edinburgh; J. H. Fisher, Dunfermline; W. L. Currie, A. Kinninmont, and R. Macadam, Glasgow; C. Kerr and J. M. Hardie, Dundee; A. Davidson, Montrose; J. Nesbit, Portobello; J. Paterson and A. Strachan, Aberdeen; J. W. Sutherland, Dumfries; D. Storrar, Kirkcaldy. Apologies for absence were intimated from Messrs. Johnston, Kermath, and Noble.

Mr. STEPHENSON moved the re-election of Mr. Ewing as Chairman of the Branch. The proposal was greeted with applause, and Mr. STEPHENSON said that this manifestation obviated the necessity for urging the motion at any length. He would only give briefly three reasons why Mr. Ewing should be re-elected. The first was the position Mr. Ewing held on the poll for the election of the Executive, which was an indication that the electors regarded him as the best man for such a position; the second was that he had discharged all the duties of Chairman in the past so satisfactorily, and had been so successful in representing the Executive in London, and in promoting the friendly relations that existed between the Executive and the Council, that they could not afford to lose his services; and the third was that at such a juncture as the present, when they were in the midst of important proposals for additional buildings for the Society in Edinburgh, it was necessary to retain the services of Mr. Ewing, who was thoroughly conversant with all the plans.

Mr. STRACHAN seconded the motion, which was unanimously agreed to, and

Mr. EWING acknowledged the vote gratefully, and gave a few words of welcome to their new colleagues, Mr. Currie, Mr. Davidson, and Mr. Lunan.

On the motion of Mr. NESBIT seconded by Mr. HARDIE, Mr. Kerr, Dundee, was elected Vice-Chairman.

The resident members of the Executive were appointed a General Purposes Committee to attend to business arising between meetings of the Executive. The committee includes also the Vice-Chairman, who is, along with the Chairman, *ex officio* a member of the committee.

The CHAIRMAN made a statement with regard to the plans and estimates for the proposed additions to the Society's Edinburgh premises, which was remitted to the General Purposes Committee. He then referred to the question of the local secretaries in Scotland. The report, he said, was at present before the Council, and he thought it probable that the suggestions made by the Executive would be carried out. This also was remitted to the General Purposes Committee.

As it was though advisable that the Scottish members of Council should be acquainted with what was being done by the General Purposes Committee in regard to the two foregoing matters, Messrs. Johnston and Storrar were added to the committee.

In connection with an invitation which had been received to the International Pharmaceutical Congress, it was remitted to the Chairman and the Assistant-Secretary to arrange for the Executive being represented at Chicago in August.

Messrs. Ewing, Kerr, Currie, Johnston, Storrar, Paterson, and Macadam were appointed delegates to the British Pharmaceutical Conference at Nottingham. The Assistant-Secretary was authorised to add the names of other gentlemen who might intimate their intention of attending

WANTS DEFINING.—A series of questions were published in *The Hospital*, and written answers were requested on the subject of the nursing of bronchitis patients. Many answers verging on the "funny" were received, but this was the climax of them all: "In bronchitis," says Nurse —, "the patient should be washed daily on the allotment system, under a hot blanket."

A VISIT TO A SHEEP-DIP FACTORY.

AT the invitation of Messrs. Wm. Cooper & Nephews, of Berkhamsted, a representative of THE CHEMIST AND DRUGGIST took the train to the little Hertfordshire town the other day to inspect the works of the great sheep-dip manufacturing house, which has just celebrated the fiftieth anniversary of its foundation.

Berkhamsted is situated in a pleasant valley surrounded by wood-clad hills, and the line from Euston runs through some of the nicest country to be found in Southern England. Unfortunately the beauty of the view is poached upon in many of the most picturesque parts by unlovely advertising boards, on which the traveller is admonished to strengthen his liver, his teeth, his blood, and his anatomy generally, by partaking freely of the remedies advertised in the brightest pigments that the world produces.

Our representative was received at the office of the firm by the manager of the works, who was busily engaged in looking over a batch of letters that had arrived by the morning's post from Australia and South America.

TRADE BRISK IN ARGENTINA.

"See here," said that gentleman, showing a letter from the firm's Buenos Ayres agents which he had just read through, "here is remittance for one month's trading, two drafts, amounting together to rather over 5,000*l*. That is not so bad for a depressed country like Argentina, is it?" And, excusing himself, the manager momentarily disappeared into the general office, to give some instructions to the staff before guiding his visitor through the works, and leaving the latter, in the meantime, to admire the designs for two prize-cups which Messrs. Cooper & Nephews propose to award to the owners of the two Cotswold rams that shall be declared winners at a certain live-stock show in connection with the Chicago Exposition. When our representative had done with the sketches, he looked around the place, which was strangely unlike most chemical-works offices with which he is acquainted. The room in which he stood was almost in the centre of the works, but beyond the muffled and monotonous throb of a heavy steam-engine in a neighbouring building, and a few small patches of a deep-yellow powder upon the roadway, there was nothing whatever to indicate the proximity of some two hundred men busily mixing tons of sulphur, arsenic, and other ingredients. Adjoining the office was a neat vinery, and a short distance beyond, near a dwelling-house forming part of the works, our representative had noticed, in passing, a lovely terrace and lawn, fringed with rosebushes in full bloom, everything clean, fresh, and as unlike Battersea, the Borough, or other typical metropolitan manufacturing districts as a soft-fleeced, plump, Cooper-dipped sheep is different from its vermin-infested, neglected cousin, owned by some Barbaric herdsman.

Presently, the Manager returned, and, again referring to the morning's mail from Buenos Ayres, read aloud a letter from the agents for Argentina, giving the names of eight or ten of the largest sheep-owners in the country who had forwarded exhibits of the Argentine wool industry to the States. "It may interest you," added the agent, "that all the wool raised by these farmers is Cooper-dipped."

WM. COOPER, M.R.C.V.S.

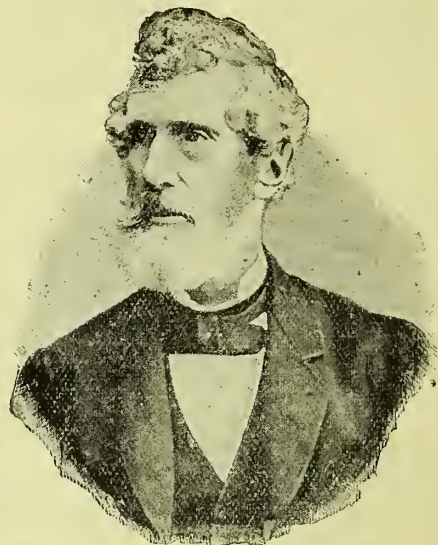
As we set out on our walk the Manager gave us reminiscences of old Mr. William Cooper, the founder of the firm, who has now been dead some ten or twelve years, and at whose decease the business came into the hands of his three nephews, one of whom has also since died.

"The founder of our house," he began, "was a veterinary surgeon, in practice at Berkhamsted, and a very good practice he had. His house stood here, at the entrance of the works, just opposite the building with the Royal coat of arms, and his veterinary surgery was in the little place at your left. In 1843, just fifty years ago, Mr. Wm. Cooper, who had paid a great deal of attention to the diseases of sheep, then exceedingly virulent, hit upon the idea of the remedy now known all over the world as Cooper's powder."

"What did they do before?" we inquired. "Surely, in some form or another sheep-dipping must be centuries old. Do you think that the gentle Una in the 'Faery Queene,' for

instance, of whom we are told that 'by her, in a line, a milk white lambe she lad,' did not dip the creature? A scab infested lamb is hardly a subject for poetic allegory!"

"Certain modes of treatment may have existed, but until Mr. Cooper came dipping was practically unknown. The most



WM. COOPER, M.R.C.V.S.

progressive farmers smeared their sheep with an extract of tobacco, or used crude carbolic acid, and other remedies which either failed to kill the insects with which the sheep are infested, or else attacked the wool, discolouring and otherwise depreciating it." Mr. Cooper, we learnt, set himself to discover a remedy which should not only be a cure, but a preventive at the same time, which would eradicate the scab disease and kill the ticks and lice that batten on the helpless mutton, and of which gruesome insects, enlarged representations, bedeck the walls of the Berkhamsted office. The result was the "Cooper's dipping-powder," which is even to-day the one, and the only article manufactured at the works, and in which, as you may read in the polyglot advertisements of the firm, over 100 millions of sheep in all parts of the globe are now bathed every year. Mr. William Cooper is said to have spent many months in experimenting, and when at last he was satisfied with the article he had produced, he commenced in quite a small way to manufacture it in a shed adjoining his premises.

We do not know whether the Messrs. Cooper preserve the original formula of their powder, as the genuine Farina is said to do that of his Eau de Cologne, in a treble crystal vase standing solitary on a pedestal in an otherwise bare apartment; but they certainly guard the composition, or rather the mode of preparation (for the chief ingredients are too bulky to admit of secrecy) with the utmost care, and they have up to the present succeeded in eluding all the pitfalls dug for them by rival makers with the object of becoming possessed of the knowledge of the manipulations.

THE DIP REMAINS THE SAME.

"I suppose," said our man to his cicerone, "that in the course of half a century you have effected important improvements and modifications in the preparation of your dip?"

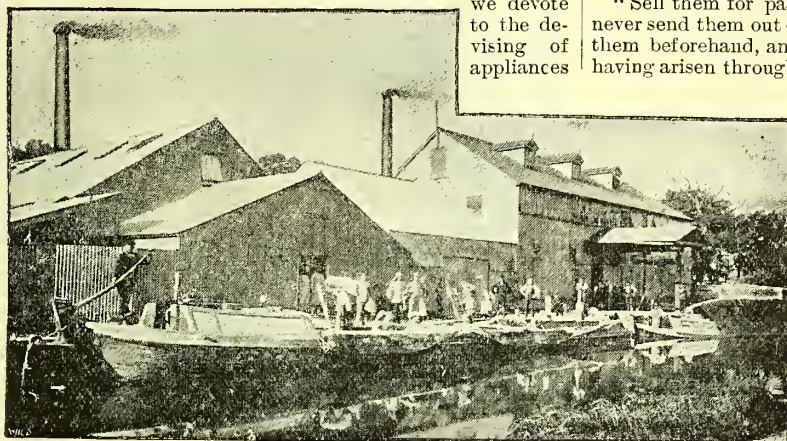
"Not a bit of it," was the answer. "The powder of which you will witness some of the manufacturing processes to-day is absolutely the same in every respect as the first batch which the late Mr. William Cooper succeeded in selling. That is our boast. We claim that the old gentleman invented a powder which was absolutely incapable of improvement, and no alteration whatever has been made in the manufacture, not so much as a drachm to the ton of ingredients is different now from what it used to be."

"But, surely, in the course of your business experience you have added other articles of a similar character to the

powder-manufacture. One would imagine such a business as yours to be capable of evolution in many directions."

"It may be so capable, but we have never tried it. Dipping-powder is, as it has always been, our one and only article of manufacture. It is powder, the best powder, and nothing but the powder. Stay—some years ago, we went in experimentally, for the manufacture of a wheat-dressing, but we soon relinquished that, and we have never tried anything else. The 200 men or thereabouts whom we employ are all engaged upon work incidental to the production and sale of this one article, as you will see. But we do almost everything here that is connected with the manufacture of the dip. We do our own printing, make our own boxes, and even this little steam-engine has been entirely manufactured in our engineering shop. When we want to modernise or extend our works (and we are always engaged upon the one or the other occupation) our own men do the work from the first brick to the last tile, and what energy we have

to spare
we devote
to the de-
vising of
appliances



UNLOADING SULPHUR AT THE WHARF.

and the working out of ideas that will help the farmers to improve their stock, and assist the sale of our dip at the same time."

HOME AND FOREIGN TRADE.

"I notice that your export business is very extensive. Can you tell me roughly what proportion it bears to your home trade?"

"Hardly, except that we export several times as much as we sell at home. We send, perhaps, 10,000 cases out of the country every year. In the United Kingdom we sell through chemists only. There are from 2,500 to 3,000 of these now selling our dip as agents. In the Colonies and abroad we have either branch houses of our own or sole agents with whom alone we have direct dealings. Hence, though our export trade is so much larger than our home business, it gives us much less trouble and correspondence. We keep registers, as nearly complete as possible, of all the farmers in the United Kingdom, and we circularise these actual or potential customers periodically. Where we have an agent we print his name on the labels. Just now, as you will see when we get to our printing department, we are up to our ears in the production and distribution of our jubilee book, of which a copy will be mailed free to every farmer upon our register. See, there is a cartful just going out."

And our friend pointed to a cart loaded to the top with bundles of the "jubilee book" aforesaid, apparently on the principle of the Dickensian holiday-makers at Greenwich Fair, with whom the question was not what the horse could draw, but what the vehicle would hold. When the manager perceived this state of things he ordered the overflow to be placed upon a handcart, and both went gaily rolling off to the Berkhamsted post-office, after having been photographed for the occasion.

THE CHIEF INGREDIENTS.

Thus conversing, we had visited several of the sheds devoted to the preparation of the powder. First a roomful

of what looked like pearl-ash; then a shed, in which a huge pulverising-mill was busy in grinding a mixture in which sulphur appeared to be the principal constituent; and, finally, a yard stacked and strewn with kegs of white arsenic powder.

"We buy our arsenic in lots of 500 tons at the time," said the Manager. "It all comes from the Cornish tin-mines."

"Do you take any special precautions with it?"

"No, we cannot. Of course all our hands know of its danger, but the quantity we use is far too large to enable us to keep it under lock and key, or to prohibit any but a few workers from having access to it. Still, the men are very careful, and so far from the handling of it having any bad effect upon them, you will see that they all look in the best of health, and many have been with us for years. In some of the sheds the men work with mufflers round their mouths, and in all of them we recommend them to plug their nostrils with cotton-wool."

"What do you do with the empty casks?"

"Sell them for packing nails in, and so forth. But we never send them out of the place without thoroughly washing them beforehand, and we have never heard of any trouble having arisen through their handling."

We had now reached the wharf at the end of the works stretching along the Grand Junction canal, which places the works in direct communication with the chief centres of industry in England. Behind us was an alkali shed in which were stacked many hundreds of barrels of potash-salt.

"We get our brimstone directly from Sicily," was our guide's observation.

"Do you ever use the English recovered sulphur?"

"No, we have never tried it, and we don't want to, either. It would not pay us. We make no change in the price of our dip when the raw materials fall in value. Of course, as you suggest, we have

been fortunate lately in obtaining much of our raw material at very low prices. Sulphur is cheap, certainly. But look at arsenic. We used to get all we wanted at 9 $\frac{1}{2}$ a ton, and now we have to pay nearly 25 per cent. more. Coal has also risen. No, we don't raise our price when the raw materials advance, and so we are entitled to the benefit of low rates."

"I suppose most of your goods are sent by water?"

"Certainly, seeing that water-carriage is much the cheapest. We have not suffered from the Railway Rates increases, though. The Company put up their tariff for our goods, but we protested successfully, and the charges are now, if anything, lower than they were before."

SHEEP-DIPPING IN AUSTRALIA.

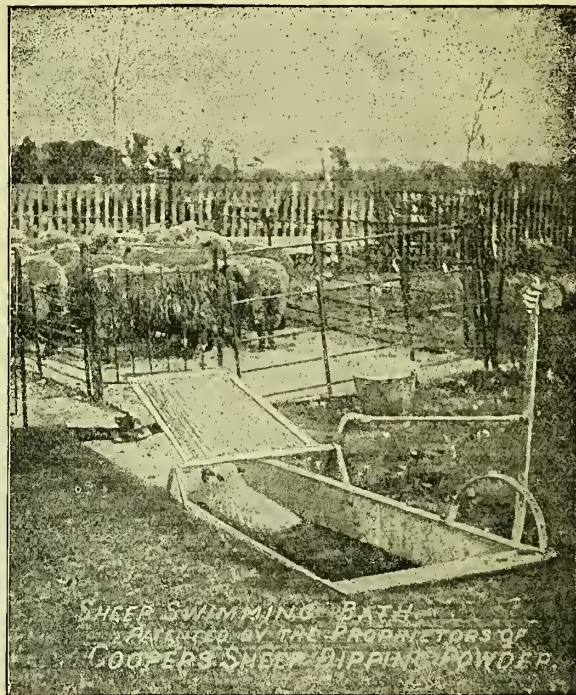
"This," said the manager, pointing to a stack of boxes ready for shipment, in one of the sheds, "is a consignment of our dip about to be sent to Australia. There are more than a million sheep here. All through the works the stock of dip ready for shipment is reckoned by millions, or fractions of millions of sheep. These boxes weigh 125 lbs. gross, and each one will dip 2,000 sheep. We don't put up our Australian dip in the small 1 $\frac{1}{4}$ -lb. packets in which we pack it for home consumption. Your Australian herdsman, with his quarter of a million of sheep to wash in the busy season (they dip them there straight off the shears), would not thank us for giving him the trouble of undoing thousands of little packets. They are much more practical in these matters in the Colonies than they are here. Your British farmer will fill a small single-sheep bath with his dip, plunge in one sheep at a time and bathe him by the aid of four men. Ninety-nine per cent. of the British flocks are so dipped. In Australia they drive the sheep by hundreds into a large pen with a narrow exit through which one after another they pass into a long bath with slanting bottom, consisting of a trench about 60 ft. long, dug in the ground, with a bricked floor, and about 5 ft. deep at its greatest depth. From five to seven sheep pass through the water at the same

time, and, as they lose their foothold, constantly stir up the dip with their feet, so that they get thoroughly soaked with it, and don't require another bath for a twelvemonth. Three men can dip hundreds. In Britain we recommend dipping twice a year. The dipping season here is just coming on now, and we are therefore at this moment busier than usual."

SHEEP-DIPPING ABROAD.

Thus talking, we passed from shed to shed stacked with stock ready for shipment. "There is enough stock upon the premises," broke in the manager, "to dip 25,000,000—wait a bit; no, 50,000,000—of sheep, but all we make is moving off fast enough. Our principal customers abroad are Australasia, the United States, South Africa, and Argentina. On the Continent we don't do very much, excepting in Russia, where we have a fair trade, though nothing like what it might be if the farmers were more progressive. Here is a consignment for Russia," and he pointed to another stack of boxes with Russian labels. "Germany and France are very backward in the matter of dipping. You would think a country like Germany, now, would be in the van in such a matter; but, no, most of the farmers there don't dip at all, and nearly all are addicted to the fatal custom of penning up their flocks at night under a closed roof, which certainly does not tend to make the sheep any healthier. In Spain they have the finest sheep in the world. The Merino is such a good breed that even in the absence of dipping its wool commands as high a price as any variety, and I am afraid it will be many years before we shall be able to convert the Spaniards to our views. And yet if they only knew the advantages of dipping, how they would blame themselves for having neglected the practice so long. We reckon that the average cost of our dip is a halfpenny a bath, or a penny a year where sheep are dipped twice. An outlay of a shilling packet for every twenty-five sheep is ample. But consider the gain. We always analyse the prices realised at the London wool sales, and we find that, as a general rule, the wool from Cooper-dipped estates brings the best prices. This represents a thread of healthy wool, the other

a specimen of it there in the yard—a metal one, wedge-shaped, to be sunk into the ground. The animal is taken from its pen down the inclined plane into the dip, and the trap-door closed upon it by means of a lever. When the sheep has stirred about sufficiently the door is drawn back by another movement of the lever and the operation is performed. This does away with a lot of manual labour."



SHEEP SWIMMING-BATH.



HEALTHY WOOL.



DISEASED WOOL.

shows the wool in a diseased state. I need not enter into particulars to convince you that the one thread is likely to yield a handsomer and better-wearing fabric than the other.

"We are not very much hampered by protective duties abroad. In the States, when the McKinley Bill was under discussion, the farmers actually petitioned Congress to remove the duty on sheep-dips altogether, and their efforts were successful to this extent that the rate was reduced by 50 per cent. But we are only moderately thankful to Mr. McKinley, for had it not been for him, dips would certainly have been put on the free-list. In Australia also the tariffs are not adverse to us. Although there is no scab in the Australian colonies—it has been stamped out by vigorous legislation, and only occurs very sporadically in Western Australia—nearly every sheep farmer there dips as a preventive against vermin, and they must have dip at any cost.

"Spanish and Dutch are the two foreign languages in which we send out our pamphlets and advertising matter. Dutch is very important to us, owing to the large Dutch sheep-farming element in Cape Colony and the two Republics, where the Dutchmen take very kindly to the dip."

AND AT HOME.

"In England we are doing all we can to educate farmers up to a better system of dipping their sheep. We make a large number of dipping-baths here" (we were now in the carpenters' shop) "and keep a considerable number of men at work in this department. We use Swedish wood, and every bit of it is seasoned in our works for two years before it is used. We have just patented a new bath—you will see

Then, reverting again to the question of the chemists' business in the dip, Mr. Gilbert told us that during the last three years the firm had insisted upon having from every one of their customers a signed declaration binding the buyer not to cut the price. Until this scheme was introduced Cooper's Dip was cut by rival dealers to their heart's content; now underselling is a thing of the past. Of course, the circumstance that the works are in direct relationship with all their customers in this country renders it much more easy to control the sales than if the bulk of the business were done through wholesale houses.

LABOUR IS CHEAP.

From the carpenters' shop we went to another part of the works, known as the artistic and printing department. On the way thither a large building was visited, devoted to the putting-up of the dip. In a room below a dozen men, all sprinkled with yellow powder and swaddled in protecting-clothes up to the eyes, were busily engaged in shovelling the powder from the flat trays on which it was carried into the room into rough packages. These were taken to the floor above and there neatly finished and labelled by youths, who put them on boards containing a dozen each and stacked them on the rack behind.

"Don't you employ any female labour at the works?" asked our representative; "they say women are much defter at this kind of work than men."

"None at all. It is an old tradition to which we strictly adhere, that only men shall be employed about the factory. Besides, labour is cheap here. This youth gets a penny for every six dozen he puts up. How many boards did you put in last Friday, my lad?"

"Sixty-six, sir," came the answer.

"That would make elevenpence for the day?" queried our man.

"Yes, but then part of the day was spent in other work. Had he been at this job all day long he could have put up at least 130 boards. We work 10½ hours a day here."

AN ARTIST IN SHEEP.

The next move was to the printing-office, where two fine "Climax" presses were hard at work turning out copies of the "Jubilee-book," while lithographic-stones in various parts of the building testified to the importance of coloured show-cards as factors in the "publicity-department" of the house. "We have just brought out a fine advertising card," said the manager, holding up a reproduction of W. Hunt's "To the Rescue"—a big dog pulling a lamb out of the water, the mother standing by with tears of gratitude in her ovine eyes. The dog had the words "Cooper's Dip" on his collar, and another reference to the preparation adorned the clouds in the background. I suppose, thought our man, the time may not be far distant when R.A.'s shall paint exclusively for our large advertisers. The tendency to paint subjects that lend themselves for advertising purposes seems distinctly on the increase.

"When Mr. Cooper first started business," our guide again took up the tale, "all our printing was done by hand-presses. It has always been our boast that our works are self-contained, and no advertisement, label or hand-bill was ever issued by Cooper's that was not actually printed here."

Enamelled-iron sheep in various attitudes gazed down upon us from all the walls of the room. "A Black-face Scotch," "a Shropshire," "a Leicester Ram," "a Romney Marsh," and so on through the whole range of sheepdom. Presently we were introduced to the gentleman who is the author of all these creatures, and whose proud boast it is that he has spent over thirty years of his life painting nothing but sheep for Cooper's Dip. "Our artist here knows sheep better than any man in the world—his creations in sheep are simply perfection. I verily don't believe there is any painter in the world, not even Sydney Cooper, can touch him in this department." So ran the encomiums upon the painter. Three hundred iron-enamelled Merinos are ready to be sent to Buenos Ayres by the next steamer. A picture of the works, 20 feet long, has just been sent off to Chicago by the firm, and the clay model from which it was reproduced stood on a table hard by.

"We bring out a new poster at least once a year," the artist said, "and we are continually getting up books of information on sheep-breeding for the benefit of farmers. Our Mr. Cooper, the surviving partner, who is himself an M.R.C.V.S., has a large estate at Shenstone, where he breeds some of the finest sheep in Britain. He can, therefore, speak with authority on the subject, and whatever knowledge he acquires in this line we make useful to the business."

"Time to go? Well, you have not seen a fifth part of the works yet, although, to be sure, if I were to take you through the remainder you would only witness a repetition of the same processes you have already seen. So we will leave it there. But I might tell you this as a parting impression, each 1½-lb. packet (of which there are seventy-two in an ordinary box for the home trade), will make 16 gallons of dip, and treat fifty sheep. We have always a stock on the premises large enough to dip fifty millions of sheep. So now you can readily calculate the number of boxes we have here awaiting shipment at a moment's notice. And we are a very happy family here. There has never been a strike or other serious trouble at our works. Our men have several clubs and societies to which the proprietors of the firm give their support, and all work harmoniously together for the benefit of the powder. There must be quite a thousand people in this little town dependent, directly or indirectly, upon Cooper's, and you may judge for yourself if it is likely that, without our factory, Berkhamsted would stand where she does."

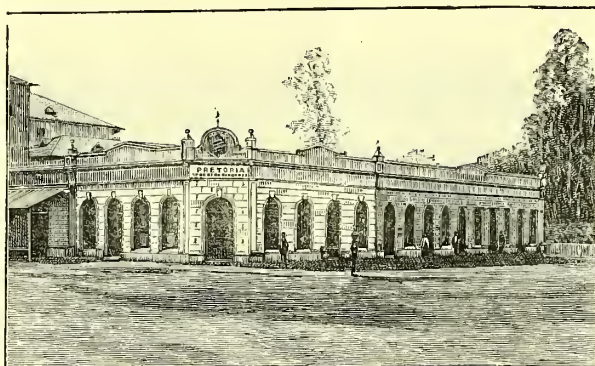
"PROFESSOR HARE says that an ordinary cup of coffee contains from 20 to 30 minims of the oil of caffeine." We cut this from the *Medical Times* as a fine sample of pure nonsense.

LIGHT CAMPHOR OIL is one of the best solvents for resins. It dissolves 46 per cent. of colophony, 9 per cent. of copal, and 35 per cent. of mastic and the same of damar. It is thus not far inferior to turpentine, and is, indeed, replacing it to some extent.

PHARMACY IN THE TRANSVAAL.

"LET me introduce myself," said a smart and sun-burnt stranger, looking in at THE CHEMIST AND DRUGGIST office last Friday, "as one of your subscribers, Mr. B. Owen Jones, of Boksburg, Transvaal Republic." Mr. Jones, after nearly five years' residence under the Southern Cross, has come to Europe on a well-earned holiday, leaving his colleagues in charge of the Boksburg and Pretoria businesses of D. R. Crow & Co., which is the style under which our visitor trades.

In 1888 Mr. Jones was an assistant at Lamplough's with a small salary and little prospect of advancement in the world. He did not, therefore, sacrifice much when he accepted the offer, made through a London wholesale house, of a situation in the South African Eldorado, which was just then beginning to attract renewed attention in the world of business. As luck would have it, the pharmacy into which Mr. Jones happened to drop was one of the best in the country. It was started nearly thirty-five years ago when Pretoria was a Boer settlement of 1,000 inhabitants or so, for which even Cape colonists searched the map of South Africa up and down for a thousand miles or so and stumbled upon by accident. At



that time Dr. Harvey Crow settled in Pretoria as a medical man, and soon his dispensing office grew into a regular pharmacy, the first in the Transvaal capital. Dr. Crow was afterwards joined by Mr. David Reid and Mr. J. R. Jones, and the firm is now changing hands; once more Mr. J. R. Jones remaining in the house, though no longer as the only Jones of the concern, while Dr. Crow and Mr. Reid will retire to *otium cum dignitate* and the pleasures of the metropolis.

"We have a very large Boer population settled around Pretoria," said Mr. Jones. "These Dutchmen come up to town twice a week to attend the early morning markets, and they are capital customers of ours. More persistent swallows of medicine I never beheld in my life. Not that their notions are at all modern: they dote on old Dutch family remedies, although some of the Boers, mind you, that come into frequent contact with the townsmen are beginning to develop an addiction for elegant pharmacy, tabloids, of course, included. But the great majority of the Boers have not progressed beyond the household remedies which their forbears brought with them from Holland 200 years ago or more—such as Haarlem oil, 'maagdoppels' (stomach drops), 'kraamdoppels' (drops for women in childbed), and the like. We get on first-rate with these customers, our conversation with them being usually conducted in Cape Dutch, of which, as you have observed, I possess more than a smattering. Some of these Dutch remedies are imported from Holland, others are made in Cape Town. There is a man of the name of James Jones in Cape Town who puts up an anti-rheumatic mixture, which he calls 'Rheumaticuro.'

"I suppose," said our representative "that it consists of the usual ingredients of such specifics: colchicum, gentian, pot. bicarb., pot. iodide, and sal. salicyl?"

"I could not tell," answered Mr. Jones, "but at any rate, it has a very large sale in Boerland. And another party—Cook, of King Williamstown—has a much-reputed 'African remedy,' a red-coloured fluid. The 'stuipdroppels,' or 'epileptic drops' of the Boers, are mostly asafetida, and the fluid they call

'Turlington' is simply tinct. benzoin co., or Friars' balsam. They are also very partial to what they call 'Jamaica gember,' which we put up ourselves for their behoof. It is just ordinary tinct. zingiber., for it has to be sold at 'competitive prices.'

"We have also, of course, a very considerable European population, Britishers, Hollanders, and Germans taking the lead in point of numbers. These are the chief supporters of modern pharmacy. Antipyretics have an enormous sale. Four years ago, when we had a severe epidemic of fever, followed in most cases by dysentery, in the Transvaal, I have known medical men over and over again prescribing antipyrin in 20-grain doses every three hours, afterwards followed by 30 grains of simple ipecac. and by repeated doses of opium—a drastic treatment, but generally justified, in this case, by results.

"Burroughs, Wellcome & Co.'s goods are in very great demand in South Africa, and so, in fact, are all easily-portable medicines. People who go about a great deal want to have something handy that doesn't occupy much room. Allen, Hanbury & Co.'s 'perfected' cod-liver oil and jubes are also much liked.

"Our biggest place in the Transvaal is now Johannesburg, in the centre of the gold-fields, with a population of over 40,000. There is plenty of money there, the gold-fields were never more prosperous than they are now, but there is also plenty of competition. In Pretoria we have now seven



pharmacies, including a Dutch one belonging to Dr. Lingbeek, a Hollander. This is the one supposed to be the 'Court pharmacy' of President Kruger, the chief magistrate of the Transvaal Republic, and the coat of arms of the State is placed over Lingbeek's entrance in acknowledgment of this fact.

"We have been fortunate in the matter of assistants so far, but the dearth of good men, coupled with the superabundance of inefficient ones, both British and Afrikanders, is one of the greatest drawbacks to pharmacy in South Africa. Drink is the great curse. A man who has a tendency that way may be regarded as lost when he lands in South Africa. Our working hours are short. We open at 7 A.M. and close at 8 P.M., but the average daily work of an assistant does not exceed eight to nine hours a day. On Sunday our place of business is open almost all day long, and the rule is two Sundays off out of every three. The average pay for a qualified assistant is about 20*l.* a month, outdoors. He can live on half that amount.

"The question of a Transvaal pharmacy law is expected to come up for settlement at an early date in the new Volksraad (Legislative Chamber), which has just been elected. At present the Transvaal is a kind of No-man's land in this respect. Most chemists there hold a Cape Colony certificate, although, by strict letter of the law the Cape Colony certificates are not recognised in the Transvaal, but British, German, Dutch, or other qualifications will serve. There is a kind of medical organisation in the Republic, which is trying to obtain the passing of a poisons law by the Volksraad. Examinations in pharmacy are held quarterly, and the foreign certificate-holder must get his qualification endorsed, and satisfy the Transvaal examiners that he can understand Cape Dutch, and possesses some acquaintance with the popular remedies of the country. Doctors may dispense, but few do so. We have also,"

continued Mr. Jones, "a large trade with some of the gold-mining companies in our neighbourhood, such as the 'Chimes,' the 'Van Ryn,' and a number of collieries. Of course, you know that these companies largely employ black labour. The labourers are housed, fed, and doctored at the expense of their employers. They occupy compounds, in which they are compelled to spend the whole of their time. The medical man in the service of the company visits them twice a week, and periodically sends us the drug-order, in which calomel, compound powder of jalap, castor oil, and magn. sulph. always bulk largely. The blacks also have an extensive popular materia medica, which is almost unknown to Europeans.

"Mineral-waters?—Yes; we have a very large trade for these. We now manufacture them ourselves. Just as I was leaving Pretoria our Ryland's machine, which we had ordered in England, was being unpacked. We are now in direct railway communication with the coast, and that saves us an enormous amount of freight-outlay. Photographic goods also have a splendid sale. Our Boksburg (the name signifies 'Buck's Hill') shop does most of the mining trade, while in Pretoria we have the Boer trade and a certain percentage of 'genteel' business, the place being the seat of the Government of the Republic. Pretoria is a lovely place. It seems one semitropical garden. Rather hot, the average temperature at noon being about 85° F., but very healthy. Our shop is just opposite the Government Buildings in the centre of the town. Close by is Dr. Lingbeek's 'Hollandsche Apotheek.'

"Solid sulphuric acid was being introduced into the Republic just as I was leaving. If it proves to possess all the advantages that are claimed for it, it may have a good sale, for the importation of the liquid acid from England in cases of four 2-gallon jars packed in lime, is costly and unsatisfactory. But a large chemical works for the manufacture of sulphuric acid from pyrites is just being built about 3 miles from Boksburg. It seems to me to be on rather too big a scale for the requirements of the country, but the Transvaal grows rapidly, and the factory may be a success and freeze out the imported acid."

After some further conversation, our visitor stepped downstairs to see when his subscription expired. It then turned out that the names of by far the greater part of the Transvaal chemists already figured beside Mr. Jones's own on our list. Our visitor laughed. "Yes," he said, "one hardly ever enters a pharmacy in South Africa but what the last number of THE CHEMIST AND DRUGGIST is lying about much the worse for diligent reading. But you ought to get a subscription of Dr. Lingbeek." "Lingbeek!" said the subscription clerk; "why, here is the name of his English manager. He has taken in our journal for years already." And so, for fresh worlds to conquer in that part of the globe, we must look towards the Equator—in Mashonaland and on the Central African highlands.

Business Changes.

MR. C. M. ROBINSON, of Norwich, has taken over the branch business lately carried on by Messrs. James Robinson & Co. at Attleborough, Norfolk.

MR. J. H. L. DORE has moved from 19-21 Wilson Street, to Market Buildings, 29 Mincing Lane, E.C., and will henceforth carry on his business under the style of "J. H. Dore & Co."

MR. GEORGE HERBERT PEAKE, of the Stafford Collieries, Barnsley, has been elected a director of Dan Rylands (Limited) in place of Mr. Dan Rylands, resigned.

MR. JOHN DUNLOP has sold his business at Hull (The Osborne Pharmacy) to Mr. William Halmsham, of Brigg. Mr. Dunlop will study for the medical profession.

MESSRS. BOOT & CO. (LIMITED), of Nottingham, &c., have opened a new branch in Loughborough, where "cutting" has hitherto been of a very mild type.

"LOOK here," said an excited man to a druggist, "you gave me morphine for quinine this morning!" "Is that so?" replied the druggist. "Then you owe me 25 cents."

Personalities.

MR. JOHN EVANS, chemist and druggist, Temple Gate, Bristol, has been elected by a large majority a member of the Board of Guardians for the Temple Ward.

THE name of Mr. W. H. Rees, pharmaceutical chemist, has been added to the commission of Justices of the Peace for the borough of Dartmouth. Mr. Rees has been a resident of the place for nearly fifty years.

AMONG the callers at our office this week was Signor (or "Mr.," for our visitor is sufficiently Anglicised to warrant the plain British title) Enrico de Giovanni, who is about to return to Genoa, from which city he is going to push the sale of Messrs. Burroughs, Wellcome & Co.'s goods in Italy. He is willing to negotiate also with other houses who think their products are good enough for Italian druggists and doctors. Mr. De Giovanni is hopeful about the prospects. Some time ago only the eleven British chemists in Italy kept the B. W. & Co. goods, now over eighty Italians are already upon the list of regular customers. The Customs duties are a nuisance, to be sure. Kepler would sell well, but they charge 1-20 lire per kilo. gross weight upon it at the frontier, so that a $\frac{3}{4}$ -lb. bottle pays 9½d. (95 centesimi) in duty alone. British alkaloids, by the way, if without certificate of origin, pay 12 lire; with a certificate, only 5 lire per kilo. Proprietary goods must bear their formula upon the label, and, if they contain alcohol, the duty upon them is assessed at a still higher rate than otherwise. The Italian medical men, upon the whole, are favourably enough disposed, and Mr. De Giovanni has received a good many testimonials from prominent members of the profession. Genoa has no English pharmacists as yet, although the importance of its shipping trade and its geographical position (it has direct steam-communication with New York) bring English-speaking people in large numbers to the old city. There are three Italian chemists who make a speciality of the English connection, but Mr. De Giovanni thinks there might be an opening for a British pharmacist in Genoa.

Gazette.

PARTNERSHIPS DISSOLVED.

Floyd, T. S., and Ferrar, B. B., physicians and surgeons, Birkenhead.

Howarth, R. S., and Hill, C. R., perfume manufacturers, Manchester, under the style of the Standard Perfumery Company.

Miller, F. M., and Rushbrooke, T., physicians, surgeons, accoucheurs, and general medical practitioners, Amlhurst Road, Stoke Newington, and Stamford Hill, N., under the style of Miller & Rushbrooke; F. M. Miller will continue to practice at Amlhurst Road, and T. Rushbrooke at Stamford Hill.

Newsham, F., and Vernon, H. W., surgeons, Birkdale, under the style of Newsham & Vernon.

DEED OF ARRANGEMENT.

The following deed of arrangement with creditors has been filed at the Bills of Sale Office, under the provisions of the Deeds of Arrangement Act, 1867. Some of these deeds are for the purpose of carrying out compositions with creditors (and such are specified below), but the great majority of them are "assignments" in the ordinary form, to a trustee or trustees, for the benefit of creditors. The Act referred to expressly provides that registration shall not give validity to any deed which is an act of bankruptcy, and there is no provision in the Act making any of these arrangements binding upon dissenting creditors.

Brown, Edward Phipps, 83 Duke Street, Askam-in-Furness, chemist and druggist. Trustee, Joseph H. Wilkinson, 12 Cornwallis Street, Barrow-in-Furness (auctioneer). Dated June 3; filed June 8. Unsecured liabilities, 75l. 8s. 10d.; estimated net assets, 33l. The following are scheduled as creditors:—

	£	s.	d.
Raimcs & Co., York	36	4	6

(And nine under 10l.)

TRADE-MARKS APPLIED FOR.

ANY person who has good grounds of objection to the registration of any of the following marks should at once communicate with Sir Reader Lack, Comptroller-General, at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.

(From the "Trade Marks Journal," June 7, 1893.)

"LAWES' DIP," and device of three men dipping sheep in tub; for sheep-dips. By Lawes' Chemical-manure Company (Limited), 59 Mark Lane, E.C. The essential particular is the device. 171,270.

"HICKS'S ELECTRIC FLUID," signature, and other wording on label; for a cattle-medicine for gripes and inflammation. By W. C. Hicks, Westbury Villa, Leckhampton. The essential particular is the signature. 171,924.

"HUGHES'S BLOOD-PILLS," heart-shaped device, and wording on label; for medicines for blood, skin, and nerve diseases. By J. Hughes, Craig-yr-Awel, Clive Crescent, Penarth. The essential particular is the device. 169,215.

Device of woman in widow's dress binding up wrist of boy, and words, "Little Lord Fauntleroy"; for chemical substances used in medicine and pharmacy. By F. C. Calvert & Co., Gibbon Street, Bradford. 171,738.

"MELANOCA"; for embrocations for human use. By G. J. Miller and H. C. Miller, trading as "The Melanoca Company," Bridge House, Beddington, Mitcham. 172,412.

"THE 'LILY' BABY-COMFORTER," "BUBBLES," and circular design showing teething-pads, &c.; for teething-pads for infants. By T. E. Marriott, 26 Havelock Road, Hastings.

"ROSALIA," and device of girl's head in rose; for perfumery and toilet articles. By The Rosalia Company (Limited), 170 Sloane Street, S.W. The essential particular is the device. 171,287.

"OZONE AROMATIC BATH-SALTS," and device of women at side of Roman bath and wording on label; for aromatic salts for baths and toilet-purposes. By C. Sherwood and J. F. Fieldsend, trading as "Charles Grant & Co.," 4 Cotton Street, Australian Avenue, London. The essential particular is the device. 171,925.

"EPSTEIN'S SPECIAL HAIR-STIMULANT," wording and signature on label; for preparation for the hair. By E. Epstein, 249 Selhurst Road, South Norwood. The essential particular is the signature. 172,503.

"BETROTHAL"; for perfumery and toilet articles. By J. Grossmith, Son & Co., 85 Newgate Street, E.C. 172,579.

(From the "Trade Marks Journal," June 14, 1893.)

"ESSETS"; for disinfectants. By A. G. Sharpe, Queen's Road, Richmond. 172,576.

"BROMPTON ANTI-GOUT AND RHEUMATIC PILLS," on black label; for pills. By G. Hardy & Co., 10 Fulham Road, London, S.W. 171,721.

"CHOCELLA"; for lozenges, pills, capsules, &c. By Warrick Bros., 18 Old Swan Lane, London. 172,645.

"JU-JAH"; for medicine for human use. By H. G. Mumford, trading as The National Cure Company, 1 and 3 King Edward Street, London, E.C. 172,712.

"ZOTIS"; for chemical substances used in medicine and pharmacy, and for perfumery, &c. By H. W. Sharp, 28 Gray's Inn Road, London, W.C. 172,765, 172,767.

Device of man holding mineral-water bottle-cases in hands; for mineral and aerated waters. By R. Merrett, Miles Place, Rochester. 171,048.

"ARE you troubled with low spirits?" asks a patent-medicine advertiser. "Not at all," says Col. Soaks, "15 cents—same old price."

THE CHEMIST & DRUGGIST,

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NOTICE.

The Trade are respectfully informed that from June 1 all prices charged for "Sanitas" Preparations and Appliances are made out *net*, in accordance with the Revised Trade Price List, which may be had on application.

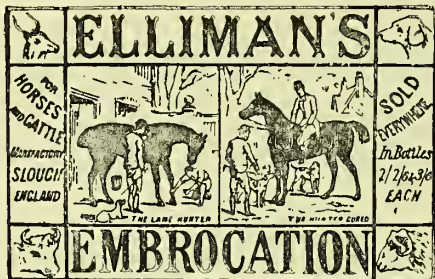
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Sole Manufacturers "Sanitas" Disinfectants & Appliances.

SHOW CARDS, 24 × 17 or 17 × 12.

Sent to any address in the United Kingdom.



See first page, facing inside of front of the first issue in this month, for latest particulars.

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GORDON STABLES, M.D., R.N.

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Is an Embrocative Balm for the People, and a source of profit to the Retailer
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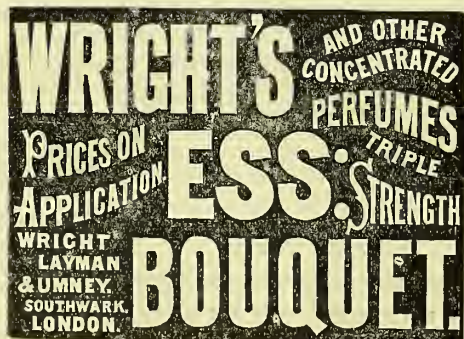
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GLENDENNING'S BEEF AND MALT WINE.

Composed of Kepler's Malt Extract, Liebig's Beef Extract, and old Alto-Douro Port Wine. Being a standard preparation, it commands a ready and a steady sale. Order through your Wholesale House, or direct from

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Mixes with Water.
Certain and Pleasant.

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Through any Wholesale House, or from the ONLY MAKERS—
JOHN MOSS & COMPANY,
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EVERY DESCRIPTION OF

Galvanic, Faradaic, and Electro-Magnetic
Machines and Electrodes, Galvano-Cautery
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Lists Free. Descriptive Catalogue, 100 Illustrations,
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GENT & CO., LEICESTER.

The Lancet.

"FLETCHER'S CONCENTRATED LIQUORS
are valuable and most serviceable preparations. We
have tested them all. THEIR PURITY AND STRENGTH ARE
UNQUESTIONABLE."

Editorial Comments.

WHAT IS VINEGAR?

THE recent development of a lively interest in the character of the vinegar sold in the Midland counties gives a particular interest to the fair and able article on the subject which has been written for us by Messrs. Alfred H. Allen and C. G. Moor, who, writing rationally enough from the analyst's

point of view, show themselves fully capable of appreciating the difficulty which the recent action presents to traders.

It is as important for traders as well as for the public that something like a definition of vinegar should be arrived at; but the analysts and the magistrates seem to be getting at such a definition by a very unscientific, and, it may almost be said, by a rather unjust, method. We do not gather that the decisions have been based on the consideration of any sort of standard. Vendors are therefore being fined freely without having any means of learning exactly what they ought to have sold, and apparently in the anticipation that the rough processes of law will in time bring out sufficient information. Beyond the assumption that vinegar must be made from malt, which seems to have been the idea impressed upon magistrates, we do not ascertain that anything definite has yet been arrived at. But this position is one that cannot be admitted for guidance. We are certainly not going to submit to the exclusion of wine-vinegar, the original, and etymologically the only correct, substance to come under the title. Perfectly good vinegar, too, can be made from cider, glucose, and other substances.

The one authority which is definite is the British Pharmacopœia. As Messrs. Allen and Moor point out, if the B.P. description is to be taken as a standard, a very large proportion of the vinegar sold is such as to render the vendor liable to penalties. But the Pharmacopœia has not yet been quoted as a standard in this respect, and we presume its most determined supporters will not claim for it the unquestionable right to prescribe the nature of all articles to be used in domestic economics and the industries, and hence it may be reasonably doubted whether its evidence is of much value in this matter.

The recent prosecutions were directed undoubtedly and particularly against the use of diluted pyroligneous acid as vinegar. We quite sympathise with this object; we do not think dilute pyroligneous acid should be supplied when vinegar is asked for. Mr. A. H. Allen's definition of vinegar—a liquid consisting essentially of impure dilute acetic acid obtained by the oxidation of an alcoholic liquid—seems fair and reasonable. This still leaves the question of strength open, and the difference between 3 and 6 per cent. of acetic acid is a margin too wide for the requirements of legitimate trade. At the same time, it is not altogether desirable that the sale of a diluted pyroligneous acid should be prohibited. It is cheap, and if, as Brannitt says, it lacks the "bouquet" of alcoholic vinegar, we do not know that it has been proved to be specially unwholesome. Moreover, it is acetic acid, and that is what vinegar is generally declared to be. Of course, it is not malt vinegar, and there would be no doubt that an offence would be committed if this were asked for and a dilute pyroligneous acid were supplied. It has its place in commerce, but perhaps it is as well that vendors of it should be required to find a name for it which shall sufficiently distinguish it from the more natural vinegars.

LABELLING UNDER THE SALE OF FOOD AND DRUGS ACT.

Two cases of considerable interest in regard to the effectiveness of labels under the Sale of Food and Drugs Act were reported in our last issue. In the first case a vendor of Epps's cocoa had been convicted and fined for selling a packet of "prepared cocoa" alleged to have been adulterated with sugar and starch. The Magistrates held that the label on the end of the well-known packet-cocoa was so small in size and so technical in terms as not to be a sufficient disclosure to constitute a defence under section 8. Section 8,

it will be remembered, provides that no offence shall be deemed to be committed provided the vendor delivers with the article a notice by label, distinctly and legibly written or printed, to the effect that the same is mixed.

The defendant having appealed against his conviction, it was promptly quashed by the Divisional Court. Mr. Justice Day held that the words "prepared cocoa" were an intimation that the article was a mixture, and pointed out that Messrs. Epps had done even more than was required of them, inasmuch as they put another label on the article stating of what the admixture consisted. He did not hesitate to say that the prosecution was one of the greatest abuses of the statute he had ever met.

A point which the prosecution endeavoured to make in this case was that while the packers had described the admixture to be "West India arrowroot," the analyst had found it to be "starch." This is a point which has on previous occasions exercised the legal mind, and it does not appear to have been always understood in the Courts that the term "starch" is used by analysts as applied to all farinaceous matters.

The second case was with regard to the sale of condensed skim-milk, and was of importance, inasmuch as it not only over-ruled the considered judgment of Mr. Littler, delivered at the Middlesex Quarter Sessions during the previous week, but it established the principle that a notice by label is a sufficient protection to a vendor under section 9.

Section 6 deals with the general subject of adulteration by imposing a penalty on a sale to a purchaser of an article not of the nature, substance, and quality demanded by him. Section 7 provides that no person shall sell any compound article of food, or compound drug, which is not composed of ingredients in accordance with the demand of the purchaser. Section 9 provides that no person shall sell an article of food from which any part has been abstracted without making disclosure of the alteration.

In the condensed-milk case, *Jones v. Davies*, the prosecution contended that a notice by label was insufficient under this section, and that the only proper notice was a verbal intimation at the time of sale. The Court, however, held that the label was sufficient, and it is obvious that, provided the label be legible and clear, this mode of disclosure is the most certain and effective that could be adopted.

It is, therefore, now clearly established that both as regards section 6 and section 9 a notice by label is a protection to a vendor. In view of the decisions quoted, we have asked a lawyer who has had special experience in cases under the statutes named to tell us how the law stands in regard to the sale of compound medicines—such as, for example, paregoric without opium, tincture of rhubarb without saffron—if notice be given, at the time of sale, by label only.

If such a sale be within either section 6 or section 9, a notice by label would apparently be a sufficient protection to the vendor. A label worded "Paregoric: containing no opium," would be held to be a disclosure of the alteration, and thus, under section 6, the purchaser, knowing of such alteration, would not be "prejudiced" within the meaning of the section; while under section 9 it would now be held, pursuant to *Jones v. Davies*, that notice of the alteration had been given.

But is this article within either section? We think not. In section 6 it is "provided that an offence shall not be deemed to be committed under this section . . . (3) where the food or drug is compounded as in this Act mentioned." It is quite clear that paregoric is a compounded drug, and it appears to us that sub-section 3, therefore, excludes it from section 6.

Section 9 deals with abstraction; but this section applies

only to an abstraction from a natural article of food, and it could not be argued that to omit opium in the compounding of paregoric constitutes an "abstraction" within the meaning of this section.

What is the meaning of the words "compounded as in this Act mentioned" in the exceptions to section 6? The only reference to compounds is section 7, which we have already referred to; and it seems likely that the sale of such paregoric comes within section 7. The penalty here is for a sale of a compound drug which is not composed of ingredients in accordance with the demand of the purchaser. It is true that no standard is adopted with regard to compounds: the proposal that the British Pharmacopœia should be the standard in the sale of compound drugs was not accepted by the Committee on the Bill; but in the case of *White v. Bywater*, where the defendant sold tincture of opium not up to B.P. standard, and evidence was given that it was not what was understood in the trade as tincture of opium, the Queen's Bench Division held that the Justices were wrong in refusing to convict merely because the article was not demanded as according to the Pharmacopœia. On the authority of this case, it could be shown that a sale of paregoric *minus* opium is not in accordance with the demand of the purchaser on the ground that it is not what is generally known in the trade as paregoric. It will be seen that section 7 is absolutely prohibitory. No means of escape by notice is provided or possible under this section, because section 8 provides only for a notice by label where there is an admixture, and the protection of that section could not therefore, be extended to a charge under section 7.

FORMOSA CAMPHOR.

THE causes of the rapid and severe fluctuations to which the European market in crude camphor is notoriously subject usually remain hidden from all dealers interested in the article, excepting the two or three who are pulling the strings behind the scenes. Unlike many other drugs, which have only become standard articles of speculation in comparatively recent times, this mystery in the matter of camphor-dealings is traditional, and we have been told by men who should know, that since the throwing-open of Japan to all nations camphor-fluctuations are but pale ghosts of their former selves, and that no modern speculator ever gets an opportunity of making something like the occasional hauls that fell to the lot of lucky operators in the days when some eight or ten firms in London, Amsterdam, Paris, and Hamburg were the only ones initiated into the business. Amsterdam has gone out of the direct camphor-trade long since. The Dutch refineries are scarcely remembered even by name, and in course of time it may be that the sublimation and preparation for the market will be wholly carried on from the countries that grow the tree.

The quality of the crude camphor that is now shipped from the East has also very much deteriorated. Some thirty or forty years ago, when Chinese or Formosa camphor was very little used, the Japanese drug used to reach us in a state of dryness and hardness wholly unknown nowadays, when water is habitually added to every shipment. The Chinese or Formosa camphor, which has become a formidable rival of the Japanese product during the last five or six years, is even more grossly adulterated than the other, and in recent shipments the maximum percentage of moisture against which buyers are usually guaranteed by contract has very frequently been surpassed. The fluctuations in the market during the last few weeks have been even more rapid than

usual, and after running down quickly during the greater part of May from the high values which ruled until the beginning of that month, the price once more swung round suddenly at the end of May, and started upon a fresh course upward, which has been further assisted by the report that a considerable quantity of the drug on the way to London has been damaged by fire and water in the Suez Canal.

The downward course of the market in the early part of May, however, appears to have been the natural result of the changes that are gradually coming over the camphor industry in the East, and of which the arrival of the exceptionally large quantity of 2,250 boxes of Formosa camphor in Hong Kong during the first half of April was an incidental manifestation. The fact appears to be that the production of crude camphor in Formosa is likely to increase to such an extent that it will soon approach, and perhaps exceed, that of Japan, which averages some 15,000 piculs a year. If that expectation should be realised, as it easily may if the Chinese authorities in Formosa show themselves in the least tractable, the effects of the throwing upon the market a largely-increased output can hardly fail to be very far-reaching, especially as the consumption of camphor is not believed to increase at more than the normal rate at present.

The number of camphor-trees in Formosa is estimated to be large enough to supply the requirements of the market for many years to come (the Chinese officials say that the stock will not be exhausted for centuries), but up to the present the difficulty has been how to get at the drug. The central and northern parts of the island, which contain the largest number of trees, are inhabited by tribes of savages with whom the Chinese have carried on an intermittent warfare for generations, and in whose territories it is not safe for them to venture, although Europeans do not appear to be much molested by the aborigines. But the Chinese are doing what they can to prevent Europeans who are anxious to work the camphor-districts from carrying-out their wishes, and the supply of camphor has, therefore, up to the present, amounted to a fraction only of the possible output.

A new era appears to have dawned now, mainly, it would seem, because the large Hong Kong merchants, attracted by the high prices of the last few years, have turned their attention to the industry, and succeeded in rendering the Chinese authorities somewhat more reasonable than before. The "camphor monopoly," which has long hampered the trade, has been abolished, and in the place of it a heavy tax, known as the "frontier defence tax," ostensibly levied on account of the expense to which the Chinese are put by protecting the distillers, has been imposed. The tax, however, is much less onerous than the monopoly, and the new *régime* has resulted in an increase of the exports from 759 cwt. in 1889 to 2,524 cwt. in 1891 and 5,441 cwt. in 1892, with every prospect of a further considerable growth during the present year.

There is still a danger that the Chinese may fail to grasp the policy of encouraging the camphor-industry by freeing it from taxation as much as possible. Even now foreign firms who are anxious to establish distilleries of their own in Central Formosa cannot obtain permission to do so, but are told that they must continue to buy from the Chinese distillers; still, even as it is it appears that the business can be worked at a good profit, and now that the Japanese have commenced to compress and put up their camphor for the retail trader it is not improbable that in a few years to come crude Chinese camphor will obtain a practical monopoly of the European market, and the raw Japanese drug become even a greater rarity than the Chinese was many years ago.

WINE-ESSENCES.

It will be seen from a letter published in our Correspondence section that the Board of Inland Revenue have made an important concession in regard to the manufacture and sale of wine-essences which should be appreciated by chemists. They will not interfere, they say, with the manufacture and sale of such a compound provided that the percentage of proof spirit contained in it shall not exceed the percentage of tartaric or citric acid. The importance of this concession will be seen from an example. We published on March 11, 1893, the following formula:—

Tinct. zingib. fort	..	..	..	..	5ij.
Tinct. capsici	..	..	..	..	5ij.
Sacchar. ust.	..	..	..	..	3ss.
Acid. tart..	..	..	..	..	3ss.
Aqua ad	..	..	..	..	3iij.

M. et S.

Flavoured with a few drops lemon, to be added to 3 lbs. loaf sugar dissolved in 1 gallon water.

The Board had told our then correspondent (Mr. Sutherland, of Dumfries) that that preparation could only be made by a person holding a compounder's licence, and could only be sold by a person holding a spirit licence. The same answer would apply to that particular compound now, but it would only be necessary to reduce the proportion of the tinctures to five-eighths of the quantities prescribed to bring the preparation within the permitted limits. We should then have over 10 per cent. of proof spirit in the mixture, which is very different to the 3-per-cent. limit hitherto insisted upon. Mr. Ronchetti is entitled to the thanks of the trade for his persistence, and for his politeness in communicating the results of his correspondence.

THE BONA-FIDE ERRAND-BOY.

We are going ahead pretty rapidly. It is only three years ago that the necessity of having a qualified assistant behind the counter to sell poisons was asserted by the High Court and reluctantly recognised by a considerable section of the Pharmaceutical Society. Now, it appears, the Society are on the way to demand that the chemist's errand-boy must be qualified if he carries out a parcel containing poison. The case at Hull is a rather curious one. A chemist's son, himself unqualified, appears to have been in the habit of going round the neighbourhood for orders. Instructed by the Society, Hannah Smith, of Keadby, ordered from him sixpennyworth of laudanum, to be delivered a fortnight later. When he brought the laudanum, Hannah also bought a pennyworth of red precipitate. What stock of poisons the young man had got about him does not appear, but we are not at all sorry that the business of poison perambulant should be nipped in the bud. The defendant was rightly enough fined for the sale of the red precipitate, but the interesting case would have been that which had to do with the laudanum. The Judge managed to insinuate an opinion, though he shirked the decision; but the Society's counsel stated that he was instructed to press the matter, and it was admitted that Hannah Smith had ordered the laudanum on express instructions. A judgment on this point would have been interesting, but it seems doubtful whether the evidence offered was sufficient. An unqualified assistant taking an order for poison is certainly not doing an illegal act; and there is much force in the defendant's suggestion that the errand-boy who delivers the poison and takes the money for it can hardly be the seller. But if an unqualified person may do all this, he may practically do out-of-doors what he may not do in a shop. The question, we should say, resolves itself into one of identifying the *bona-fide* errand-boy.

THE CHEMICAL TRADE AND THE CHAMBER OF COMMERCE.

The annual meeting of the Chemical Section of the London Chamber of Commerce, which was held on Monday last, was a more than usually dull affair. Like the happy nations that have no history, the chemical trade of the Metropolis appears to be so absorbed in the peaceful pursuit of material advantage that only a dozen of its members thought it worth while to put in an appearance at its principal annual business gathering. Not that this abstinence from manifestation of interest is upon the whole an unhealthy sign. If the interests of the trade were dangerously threatened in some important direction, its members would gather together fast enough, but people do not care to be bothered with meetings when they know that all they have to expect in return for their attendance is a long review of the year, and the re-election, with the usual compliments, of the retiring officers. There are some people, to be sure, who find an inscrutable happiness in "sub-committees," and such-like machinery, but these, fortunately, are as yet a minority of the human race. The only smile that stole over the faces of the faithful twelve on Monday, was when the Chairman announced that among the matters that had come before the section in the course of the year, was one from a benevolent chemical manufacturer, who suggested that a scheme should be adopted for compelling (he did not say how) the retail chemists to sell quinine at a fixed price. The proposal was ostensibly made in order to promote the cultivation of cinchona in the British Empire. The name of the author of this practical suggestion was not revealed.

VETERINARY CHEMISTS.

We asked the Council of the Royal College of Veterinary Chemists, last week, to take some means of letting their constituents know the result of the recent action against chemists which they will have to pay for. In the ante-newspaper days, nations used to conduct wars on the principle of always ignoring defeats, a practice which proved disastrous in many instances. The *Veterinary Record*, which is conducted by an influential member of the Council, though we do not know that it has any official character, is apparently proceeding on this plan. Two issues of this publication have been published since the catastrophe, and so far the *Veterinary Record* has not found a word either of report or comment to say on the matter. Perhaps this is better than the *Justice of the Peace*, which professes to be the guide of the country magistrate. That authority reports that the Court held that the magistrates were wrong in dismissing the case. We are arranging the costs of the case, and fear we may have to call upon our guarantors for some proportion of the amounts they promised; but if so it will not be a large sum to anyone. Would any other chemists like to share in this part of the spoils of victory?

HOW TO SAVE PENALTIES.

Nobody likes to spend a sovereign or two and get nothing for his money, and we are not surprised at the indignation frequently expressed by chemists against the Board of Inland Revenue when they have been hit on the Medicine-stamp Act. The most readily available means of vengeance appears to be to write to an editor. There is a fairly well founded impression that the Board of Inland Revenue itself is as impervious to abuse as Sydney Smith said the Dean of St. Paul's would be unresponsive to the scratching of the dome of his cathedral. But the editor is paid to be pitched into for other people's offences, and, besides, he is known to be tenderly sympathetic. We get a fair share of such letters, and some seem to go to the *Pharmaceutical Journal* also. In reply to one complainant, whose case, we think, was also submitted to us, our contemporary last week gave such excellent

advice that we do not hesitate to transfer it to our own columns and to endorse it. In regard to stamping proprietary medicines the editor of the *Pharmaceutical Journal* said:—

The line of demarcation between liability and non-liability is often very difficult to determine, and it has become all the more difficult to do so since concessions have been made in regard to various preparations. Consequently, careful attention to the general terms of the Act, supplemented by application to the Inland Revenue authorities in particular instances, furnishes the only safe means of avoiding inconvenience. The excellent handbook on this subject by Mr. Alpe, one of the officials connected with the Inland Revenue department, is a valuable source of explanatory information as to the Act itself, which should be for that purpose in the hands of every chemist and druggist.

We cannot understand why any chemist and druggist should miss having such a book as Alpe's "Handy Book to Medicine-stamp Duty" on his bookshelf. It explains clearly all that needs to be known in regard to the law and the practice of the Department in regard to this tax. It seems to us as necessary as a pestle and mortar in a pharmacy. But interested motives might be alleged against us if we said this; we therefore prefer to quote from an unbiassed source, and it is only necessary to add that the book can be had from almost any wholesale house for 2s. 6d., or from us, post free, for 2s. 9d.

IZAL.

It seems fair to the makers of this new "non-poisonous" disinfectant to point out that the charge against their preparation which had been alleged at Lancaster, to which we alluded last week, was not maintained. The Coroner's jury, it is true, gave a mixed sort of verdict, but the evidence adduced on behalf of the makers was very remarkable. The most striking evidence was that of Dr. Stuart P. Hallows, of Edinburgh, who said he had himself taken it in quantities up to 3 fluid ounces in the twenty-four hours without any injurious effect, and other persons said they had taken it in smaller quantities. Izal is an emulsion containing 30 per cent. of a new oil produced in the course of a patent process which Messrs. Newton, Chambers & Co. employ in the manufacture of a special coke. It appears to contain no phenol, but belongs to a series somewhat analogous to the terpenes, with characteristics between those of the paraffin and the benzene series.

A COMPLETE GUIDE TO THE PRELIMINARY EXAMINATION OF THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

By WILLIAM DODDS.*

THE ideal course of instruction for prospective examinees would appear to be one having no direct relation to the examination syllabus. It should rather cover the ground of this and much more by the carrying-out of a scheme according to which teachers should intelligently expound the broad principles of the various subjects in a full and comprehensive manner, to students in a fit state of receptivity, and demonstrate to them how they may, as far as possible, verify and confirm facts for themselves. In other words, students should not be prepared for examination, but receive a thorough education in all subjects likely to be of importance to them, so that the examination may be but a partial test of their knowledge instead of being, as it too often is, an indication of its limits. Under such conditions, "guides to examinations" would have no reason for existence, and failures at examinations might be expected to be

unlikely ever to occur, so long as the examiners performed their duties in strict accordance with the syllabus, yet in a sympathetic manner. For such an extremely elementary scholastic examination as the pharmaceutical Preliminary, a guide ought certainly not to be needed. The average youth of the middle-class should, with modern educational facilities, be capable of answering to this test with ease, at or before the termination of his school career, and with little or no special preparation. Whilst under the control of a competent teacher, he should need no guidance other than that teacher can give, and it is difficult to conceive that a properly qualified teacher will need to resort to the pages of any book to inform himself how he should prepare his pupils for this examination. The conclusion almost necessarily arrived at then is that the present work is primarily devised for the sake of those unfortunate individuals who have drifted into pharmacy without having previously had their scholastic training tested, and with insufficient general education to enable them to undergo the ordeal subsequently without special preparation. Inasmuch as such preparation without suitable foundations—though it may enable the unfit to proceed to the next stage, and in time swell the ranks of chemists and druggists—is not at all likely to aid in the development of scientific pharmacists, imbued with that professional spirit which alone can lead to the permanent advantage of their class, but may rather encourage individuals to rest content with putting forth a minimum of effort, it is in principle vicious. So far, however, as a guide can be of practical utility, the book under consideration seems well devised for its special purpose. The writer has had considerable experience in the preparation of such works, and seems, in the present instance, to have done his best to provide assistance upon difficult points without appearing to encourage mere surface-work to any extent. No one with ordinary intelligence and perseverance should fail to obtain satisfactory marks after working conscientiously through the scheme of study here laid down, and the universal adoption of such a system by all those who need it would probably result in a more satisfactory state of affairs generally than exists at present.—*Pharmaceutical Journal*.

MARRIAGES.

PARRY—JONES.—On June 14, at Llanerchymedd, by the Rev. R. Thomas, John A. Parry, A.P.S., to Grace, only daughter of Richard Jones, of Llanerchymedd.

STROUD—GODSELL.—On June 7, at the Priory Church, Great Malvern, by the Rev. Canon Gregory Smith, M.A., LL.D., assisted by the Rev. E. L. Kingsford, B.A., Louis L. Stroud, A.P.S., chemist and druggist, to Emily Mary, only surviving daughter of the late F. Godsell, of Great Malvern.

WRAGG—WILLIAMSON.—On June 7, at St. John's, Cheadam, by the Rev. J. Stott, of St. James-the-Less, assisted by the Rev. C. Lowe, Rector of St. John's, and Rural Dean, Edmund A. W. Wragg, solicitor, Manchester, to Lily Williamson, daughter of the head of the firm of Messrs. W. H. Williamson, Son & Co., 54 Dantzic Street, Manchester.

DEATHS.

GADDES.—On June 12, Mr. William Gaddes, chemist Bampton, Cumberland. Mr. Gaddes died suddenly from an attack of paralysis. He was present on Sunday night at the Congregational Church, and was then in his customary good health. Shortly after going to bed he complained of numbness in his right arm. Two doctors were summoned, but the deceased passed into a state of semi-consciousness for two or three hours, and then expired. Mr. Gaddes was highly respected. He was a deacon of the Congregational Church, and also one of the chapel trustees. He often occupied the pulpit. He was gas-inspector for many years, and generally took a lively interest in local affairs. He was 64 years of age.

GLEN.—On June 2, Robert Glen, chemist and druggist, Greenock. Aged 34.

MOORE.—On May 14, John Phillips Moore, chemist and druggist, London. Aged 30.

STEPHENS.—On June 9, at Commercial Street, Hereford, George-Walter Stephens, chemist and druggist, suddenly.

* London: Published at the offices of THE CHEMIST AND DRUGGIST. Tp. 8s. 2s.

VINEGAR.

By ALFRED H. ALLEN, F.I.C., and C. G. MOOR, B.A., F.C.S.

RECENT prosecutions for the sale, as vinegar, of an article consisting essentially of acetic acid obtained by the distillation of wood, have caused pharmacists generally to consider their position with regard to such an article, and to inquire what is properly to be understood by the term "vinegar."

To go back to the actual derivation of the word, the term vinegar is a corruption of the two French words, *vin aigre*, literally meaning "sour wine." Wine vinegar is still largely used in France, that manufactured from white wine being more esteemed than the darker kind; but in England malt vinegar is held in high esteem, while in America cider vinegar is largely used. In all these cases the vinegar is a product of the acetous fermentation of an alcoholic liquid, and there is no doubt that it is to the subsidiary products of this fermentation that vinegar owes its characteristic flavour and taste. Whether the term "vinegar" should be restricted to products of the above kind, or should be held to include acetic acid from other sources when suitably coloured and flavoured, is a point now exciting attention, and which we propose to consider in detail.

Ordinary dictionary definitions of technical products are not unfrequently unreliable, but it is nevertheless of interest to note the description of vinegar given in some of our leading Dictionaries and Encyclopædias.

The "Imperial Dictionary" gives the following definition and description of vinegar:—

"Dilute and impure acetic acid, obtained by the vinous fermentation. In wine countries it is obtained by the acetous fermentation of inferior wines, but in this country it is usually procured from an infusion of malt which has previously undergone the vinous fermentation. Vinegar may also be obtained from strong beer, by the fermentation of various fruits, or of a solution of sugar mixed with yeast; in short, all liquids which are capable of the vinous fermentation may be made to produce vinegar."

The "Enclopædia Britannica" states that:—

"Vinegar is a dilute form of acetic acid, having a flavour that varies according to the source from which it is obtained. . . . The nature of acetous fermentation, and the rationale of the processes by which vinegar is prepared, are explained under 'Fermentation'; and the acetic acid obtained by the destructive distillation of wood is dealt with under 'Tar.' Here we have only to do with the various kinds of vinegar use for table, medicinal, and other household purposes."

In the first edition of Watts's "Dictionary of Chemistry" vinegar is classed under the separate heads of "Wine Vinegar," "Malt Vinegar," "Distilled Vinegar," and "Wood Vinegar." In the new edition there is no distinct definition of vinegar. Under the preparation of acetic acid is the following passage:—

"Under the influence of ferments. This is the ordinary process of making vinegar from alcoholic liquids, wine being generally used for the purpose in France and Germany, and malt in England."

T. E. Thorpe, in his "Dictionary of Applied Chemistry," vol. i., states that

"in all processes for the manufacture of vinegar advantage is taken of the oxidising action of the vinegar-fungus already described; the souring of wines and other alcoholic liquids is due to this organism, the germs of which are always present in the air, and are deposited, and grow in any suitable medium."

A. H. Allen, in his "Commercial Organic Analysis," vol. i., states that

"properly speaking, vinegar is a more or less coloured liquid, consisting essentially of impure dilute acetic acid, obtained by the oxidation of wine, beer, cider, or other alcoholic liquid. Sometimes the term is improperly extended to pyroligneous acid or 'wood vinegar,' while acetic acid is called 'distilled vinegar.'"

S. P. Sadtler, in his "Industrial Organic Chemistry," page 231, says:—

"Only such materials will be considered here as give rise to a vinegar by the normal acetic fermentation. The manufacture of acetic acid and technically important acetates will be spoken of later, under pyroligneous acid, as derived from the destructive distillation of wood. The materials referred to as furnishing vinegar under the influence of the acetic fermentation are—first, wine; second, spirits; third, malt-wort or beer; fourth, fermented fruit-juices other than wine; and, fifthly, sugar-beets."

W. T. Brandt, on page 20 of his "Practical Treatise on the Manufacture of Vinegar and Acetates," says:—

"For consumption on a large scale, especially where only a body of an acid taste is required, the use of so-called 'vinegar essence'—(*i.e.*, pure 80 or 90 per cent. acetic acid) prepared from wood, and which, when properly diluted, furnishes ordinary vinegar, will undoubtedly gradually supersede vinegar prepared from alcohol, it being considerably cheaper. And notwithstanding that the price of vinegar essence is decreasing every year, in regions where wood is plentiful and cheap its manufacture is a well-paying industry, on account of the many valuable by-products (tar, wood-spirit, charcoal) obtained besides acetic acid. Even at the present time for all industrial purposes where acetic acid is required—as, for instance, in the manufacture of tar colours—that obtained from wood is used, and the quantities consumed in the fabrication of table vinegar become larger every year. But the manufacture of vinegar from alcohol and alcoholic fluids will nevertheless continue to flourish, because the product obtained from them actually possesses different properties from the pure acetic acid prepared from wood. Vinegar obtained from pure alcohol, and still more so that from fermented fruit-juices, as wine, cider, skins of pressed grapes, or from malt, contains, besides acetic acid and water, small quantities of bodies which, on account of their being analogous to those occurring in wine, may be designated as 'bouquet-bodies,' and which give to the vinegar an agreeable smell and taste, entirely wanting in acetic acid prepared from wood. These properties are so characteristic that anyone gifted with a sensitive and practised sense of smell can at once distinguish pure acetic-acid vinegar from that prepared from wine, cider, beer, &c. By the addition of volatile oils or compound ethers, an agreeable odour can of course be imparted to vinegar obtained by diluting pure wood acetic acid with water, but it is impossible to produce the harmonious bouquet peculiar to vinegar from alcohol or fruit-juices, a similar relation existing here as between wine and so-called artificial wine. The latter can be made so as nearly to approach, as regards taste and smell, genuine wine, but a connoisseur will at once detect the difference."

In "Chemistry Applied to the Arts and Manufactures," edited by Charles Vincent, wine vinegar, malt vinegar, fruit vinegar, and pyroligneous acid or wood vinegar are described in separate articles.

In Spon's "Encyclopædia of the Industrial Arts, Manufactures, and Commercial Products," page 2,038, the following passage occurs:—

"Vinegar is an acid liquid, described in the British Pharmacopœia as prepared from malt and unmalted grain by acetous fermentation. The acid contained in vinegar is acetic acid, and it usually exists in the proportion of 3 to 6 per cent. . . . Although the official prescription is adhered to by some manufacturers, the use alone of those ingredients is by no means usual; indeed, malt, in many instances, is not in the present day used at all, but for

it are substituted artificial glucose and cane-sugar or molasses. These latter are very largely used, and as they produce, chemically speaking, the same result—*i.e.*, acetic acid obtained by fermentation—there can really be no objection to their use."

The "National Dispensatory" of Stillé and Maisch states that

"vinegar is a dilute acetic acid, obtained by the acetic fermentation of alcoholic liquids. The materials from which it is prepared influence its colour, and to a considerable extent also its odour and taste."

In Pereira's "Materia Medica" it is stated that

"the acetic acid of commerce is derived from two sources—vinegar and pyroligneous acid; the first is procured by exciting the acetous fermentation in certain liquids, the other by the distillation of wood."

A. Wynter Blyth, in "Foods: their Composition and Analysis," describes under "varieties of vinegar" the various fermentation-products, and classes pyroligneous acid among the adulterants of vinegar.

In the British Pharmacopœia vinegar is defined as "an acid liquid, prepared from a mixture of malted and unmalted grain by the acetous fermentation." The specific gravity is from 1.017 to 1.019, and it is to contain about 5.41 of real acetic acid ($C_2H_3O_2$).

The vinegar of the German Pharmacopœia is required to contain at least 6 per cent. of absolute acetic acid. In Russia the minimum limit of strength is 5 per cent.; in Austria, 6; in Belgium, 5.6; in France, 8 to 9; and in the United States, 4.6 per cent.

In 1874 the Society of Public Analysts adopted 3 per cent. of real acetic acid as the minimum limit of strength for vinegar.* This limit certainly cannot be said to err on the side of too great stringency, and there have been very few prosecutions for the sale of vinegar containing less than this very moderate proportion of acetic acid.

With regard to the sale of vinegar, the pharmacist stands in a far more delicate position than the general dealer, for it might be argued, with some plausibility, that, when purchased of a registered pharmacist, an article recognised in the British Pharmacopœia ought to comply with the description of it given by that authority. This would limit the "vinegar" to be sold by pharmacists to the very best quality of malt vinegar, and if the B.P. definition of vinegar were legally applied to-day a considerable proportion of the trade would probably be caught tripping.

With the single exception of Branndt, who appears to hold that vinegar may be legitimately manufactured from wood acid, while admitting that the product is inferior to the fermentation acid, all the authorities above quoted agree in regarding true vinegar as an acid liquid produced by the acetous fermentation of alcoholic liquids, and, consequently regard acetic acid from wood as not answering to the description of genuine vinegar.

It is, nevertheless, a fact that the manufacture of a vinegar substitute from wood acid has been carried on for many years, and has recently greatly increased owing to the production of the so-called "vinegar essence," "vinegar extract," "malt acid," and other preparations consisting of strong acetic acid, suitably flavoured and coloured, from which a factitious vinegar can be prepared by simple dilution with water. These vinegar-essences vary much in strength and character, the proportion of acetic acid ranging from 40 to upwards of 80 per cent., and the subsidiary ingredients

being adjusted to correspond. In fact, certain of these preparations are apparently prepared for the express purpose of deceiving even the very elect as to their true nature; but it is difficult to adjust all the ingredients so as to prevent a skilled analyst from detecting the true nature of the preparation.

A sample of this description examined by us some time since gave the following analytical results:—

Specific gravity	..	..	..	..	1.0825
Acetic acid	..	..	..	..	88.02 grammes for 100 c.c.
					=81.3 per cent. by weight
Extract	..	..	..	..	2.77 grammes per 100 c.c.

The "vinegar" made by a wholesale chemist by simply diluting the so-called "malt acid," gave the following figures, which for convenience of comparison we place in juxtaposition with those corresponding to the vinegar of the British Pharmacopœia:—

		Vinegar from "Malt Acid."	Vinegar B.P.
Specific gravity..	..	1.0125	1.017 to 1.019
Acetic acid	..	8.11	5.41
Extract..	..	0.27	2.6 (about)

Of course, the vinegar could be adjusted to any strength desired by suitable dilution. Other data, which it is unnecessary to quote, clearly showed the character of the above "vinegar" and "malt acid."

In this connection we may state that it is quite impossible to obtain by any process of fermentation an acetic acid at all approaching in strength that of the "malt acid" referred to above. The mere fact of a liquid having an acidity corresponding to 80, or even 40, per cent. of acetic acid is absolute proof that it is not a product of fermentation, whatever the manufacturer may declare, so that those who buy these concentrated preparations do so with their eyes open. The production from malt of a vinegar containing more than 14 to 15 per cent. of acetic acid as an outside limit is apparently impracticable. But vinegar-makers do not, as a rule, aim at producing an article containing more than $5\frac{1}{2}$ to 6 per cent. of acetic acid at the outside.

Glucose, $C_6H_{12}O_6$, yields approximately half its weight of alcohol by the vinous fermentation, and theoretically 46 parts of alcohol, C_2H_5O , produce 60 parts of acetic acid $C_2H_3O_2$, by the acetous fermentation.

But, owing to secondary reactions and unavoidable losses in the process of manufacture of vinegar, the acetic acid actually obtained rarely exceeds two-thirds of the theoretical amount. A fair yield of absolute acetic acid from malt would be 33 per cent., equal to about 32 gallons of 10-per-cent. vinegar or 60 gallons of vinegar of B.P. strength. Of course, the strength of the vinegar obtained varies with the concentration of the wort, and the yield is affected to no inconsiderable extent by variations in the conditions of fermentation and the arrangement of the plant, so that manufacturing data must not be interpreted rigidly. Every $2\frac{1}{2}$ per cent. saccharine matter in the wort, under favourable conditions, will produce about 1 per cent. of acetic acid in the vinegar. Hence, a malt-wort of about 1.052 original gravity (= 13.5 of solids) would be required to produce a vinegar of B.P. strength. In some vinegar breweries this yield would be regarded as considerably better than the actual working practice.

The examination of vinegar for adulterants and to ascertain its origin is by no means a simple operation, although the processes involved are such as are commonly employed by skilled analysts. Among the determinations of value in forming an opinion on a vinegar are those of specific gravity; the proportion of free acid; the percentages of extract, ash, phosphates, nitrogen, sugar, &c.; the presence of alcohol,

* By the term "real acetic acid" there is good reason to believe that acetic anhydride was intended. Three per cent. of $(C_2H_3O)_2O$ corresponds to 3.53 per cent. of $(C_2H_3O)OH$.—A. H. A.

aldehyde, furfurol, acetic ether, and other volatile ingredients; the nature of the flavouring-agents; and the absence of mineral acids and poisonous metals. Of course, many of these determinations may be omitted when the history of the vinegar is known; but in other cases it is only by the multiplication of data and a careful consideration of the results obtained, and comparison of them with those yielded by vinegars of known history, that an accurate opinion can be formed. We have made a large number of observations with this object but our results are not yet ripe for publication.

101 Leadenhall Street, London, E.C.

Legal Reports.

THE SALE OF POISONS IN IRELAND.

AT the Edenderry (King's County) Petty Sessions, on June 9, before W. J. H. Tyrrell (Chairman) and John Ridgeway, Justices of the Peace, Mr. John Pelan, an important local merchant, was prosecuted under the Pharmacy Act for keeping open shop for the sale of poisons, he not being a registered pharmaceutical chemist.

The prosecution was instituted by the Royal Irish Constabulary through their Inspector of Weights and Measures, Mr. John Colgan, who proved that on May 9 he purchased from defendant's assistant, Mr. James Hughes, a small quantity of laudanum, which, being a preparation containing opium, came under the category of the scheduled poisons. This, he contended, the defendant could not sell, not being qualified, and the evidence in support of that was furnished by the production of the Pharmaceutical Society's register, which did not contain his name.

Mr. T. O'K. White, solicitor, defended, and did not disprove the foregoing facts. He urged, however, in extenuation, Mr. Pelan's long connection with the drug-trade, high character, &c., and then asked the Magistrates to deal with the case under the 33rd and 34th Vic., cap. 26 (for selling poisons), under which the penalty could be reduced to 1*l*.

Mr. Colgan strenuously opposed this application. The summons was not brought under that Act, but under the 30th section of the Pharmacy Act, 1875, by which the lowest penalty was 5*l*. He contended that the Justices, having heard the case under the last-cited Act, had no jurisdiction to decide under another by amending the summons after the evidence closed.

The Court overruled Mr. Colgan's objection, granted Mr. White's application, and decided the case under the 33rd and 34th Vic., cap. 26, imposing a fine of 20*s*.

Mr. Colgan, on behalf of the Pharmaceutical Society, lodged an appeal.

Another legal point arose in a second summons against James Hughes, Mr. Pelan's assistant, for selling the same "poison," he not being a "person" qualified, &c. This case was also brought under the Pharmacy Act of 1875.

After evidence similar to that given in the last case,

Mr. White, who again defended, argued that Mr. Hughes was a "servant" of Mr. Pelan's, and, being under his control, was not personally liable.

Mr. Colgan, *contra*, held that, being a shop-hand, and having sold and served the poison to the customer, he was an assistant, and as legally responsible for an illegal act as his employer.

The Magistrates held that Mr. Pelan was accountable for Mr. Hughes's acts, and dismissed the case without prejudice.

CARLSBAD SALTS.

ON Friday last, in the High Court of Justice (Chancery Division), before Mr. Justice North, the case of *in re S. Kutnow and the Trade Marks Act* came on for hearing.

The point was whether Mr. Kutnow, a Carlsbad chemist, should be allowed to assume a trade-mark in the sale of a Carlsbad powder which the municipality of Carlsbad said was a misrepresentation and likely to deceive the public.

Mr. Aston, Q.C., with whom was Mr. Sebastian, appeared to appeal against the decision of the Controller, who allowed

the registration of the trade-mark. Mr. Aston explained that it had been the practice of chemists and druggists to supply two kinds of preparations of Carlsbad water, one artificial and the other natural. There was only one kind of salt prepared directly from the Carlsbad medicinal springs, the manufacture of which was in the hands of the Carlsbad municipality or their representatives. No one else could obtain the product of the springs. Mr. Kutnow, however, sold what he described as a Carlsbad salt, and his trade-mark consisted of a deer on a rock, this being one of the most prominent features of the Carlsbad landscape. What Mr. Kutnow did was calculated to deceive the public into believing that his salts were derived from the natural Carlsbad water. As a matter of fact, Mr. Kutnow's powders were an artificial product. The hearing for granting the trade-mark of the deer on the rock came before the Deputy Controller-General on August 13, 1891. It was then urged that the Carlsbad municipality were the only body which had authority for making powders from the springs. The case set up by Mr. Kutnow was that in 1889 or 1890, he came into contact with a person named Walleseick, an apothecary carrying on a manufactory at Carlsbad for the preparation of seidlitz-powders which were mixed with salt from the Carlsbad water. These salts otherwise consisted of 3 parts of Rochelle salts, 1 part of carbonate of soda, and 1 part of tartaric acid. These powders, as he had said, were mixed with a small portion of powder bought from the municipality. This afforded the groundwork, said counsel, for a very 'cute proposition. Mr. Kutnow thought if he could get Walleseick's powder he could call it "improved Carlsbad powder," and say it was manufactured in Carlsbad. Kutnow ordered certain quantities of these seidlitz-powders, and in these he found some sulphate of soda, which is an essential feature of the Carlsbad water. Some of the Carlsbad salt was mixed, with the result that the compound was sold as "Kutnow's Improved Effervescent Carlsbad Powder." To get this on the market would have been an exceedingly valuable thing to him as a trader. Kutnow said that Walleseick told him there was some genuine Carlsbad salt, obtained from the municipality, mixed with the powder, but it turned out that there had never been any salts put in. The sulphate of soda put in was not obtained from the Carlsbad water at all, but was got from Dresden and Leipzig. The Deputy Controller-General, however, decided that the trade-mark should be allowed; but, naturally, the municipality of Carlsbad appealed against this. Walleseick never supplied Kutnow with anything else than seidlitz-powders containing an extra quantity of sulphate of soda. Even if there was any Carlsbad powder it was a clandestine manufacture. When Walleseick found out what Kutnow was doing, he gave him notice that he should not supply him with any more powders.

The hearing of this case, which was suspended at the above point by the rising of the Court, was resumed before Mr. Justice North on Saturday and Tuesday with a lengthy argument as to the admissibility of certain documentary evidence.

After his Lordship's ruling, the grounds of the opposition to the registration of the trade-mark in question were stated, the opposers being the municipality of the town of Carlsbad der Stadtgemein de Carlsbad, in the Empire of Austria, and the Karlsbader Mineral Wasser Versendung Lobel Schottlander, of the same place, dealers in mineral waters and salts, as sole lessees of the Carlsbad mineral waters and spring products. The grounds of their opposition were that the natural mineral-water springs at Carlsbad are the property of the municipality, and the Karlsbader Mineral Wasser Versendung Lobel Schottlander, as sole lessees, have the exclusive right of sale and export of the products of the springs, including salts prepared from the waters of the springs, and also a salt which is known as "Sprudel" salt, which is prepared from the water of one of such springs called the "Sprudel." Neither the applicant, Sigismund Kutnow, nor anyone else can obtain the products of the springs except through the opponents, and the applicant does not manufacture his salts from the natural waters, nor would it be worth his while to do so as he could only obtain them bottled for sale, nor does he possess any manufactory at Carlsbad, nor are his salts manufactured there. The monument, consisting of a rock surmounted by a chamois, which is the principal feature in the proposed trade-mark, is one of the most prominent

objects in the neighbourhood of Karlsbad, and is well known to be the property of the municipality and has a world-wide reputation. It was erected in commemoration of the original discovery of the Karlsbad natural mineral-water springs aforesaid, the name by which the rock on which this monument stands is known as the "Hirschensprung" or "Deer-leap," of Karlsbad, and the presence in the said proposed trade-mark of the representation of the monument and "Deer-leap" renders the proposed trade-mark calculated to deceive by inducing the public to suppose that the applicant's salts are derived from the natural Karlsbad water and obtained through the opponents. The proposed trade-mark (if registered) would be calculated to deceive by inducing the belief that the picture alone, and not the entire combination, constituted the trade-mark.

The reply of the applicant to this was that his trade-mark was not calculated to deceive, and that his powder was made at Carlbad with, amongst other ingredients, the active principle of the Sprudel salt obtained from the natural Karlsbad mineral-water; that his trade-mark was not calculated to deceive by inducing any such belief as that alleged, and the application to register expressly stated what are the essential particulars of the trade-mark. In fact, moreover, neither the picture forming part of the trade-mark nor any like picture had ever been used by the opponents or by any other person for any product of the Karlsbad springs; and if such belief were induced, no one would be deceived.

Counsel were addressing the Court on Wednesday when his Lordship rose for the day.

The arguments were concluded on Thursday morning, and Mr. Justice North reserved judgment.

SALE OF ARSENICAL RAT-POISON.

At the Mildenhall (Suffolk) Petty Sessions, on June 9, William Morley, of Mildenhall, appeared to an adjourned summons for selling arsenic at Icklingham, on May 1 last, in contravention of the Pharmacy Acts. At the former hearing, on May 12, evidence was given that the defendant sold two boxes, labelled "Poison," for killing rats, but there was no evidence as to the constituents of the poison, and the case was adjourned for the material to be analysed. Mr. J. Napier, public analyst, Ipswich, now reported that the parcel handed to him contained two pill boxes, both marked "Poison." Wrapped up in each was a paper with the following:—"Feed two or three nights on wheat-meal, lay a teaspoonful at a place where the rats run; then, if there be any feed left, gather it all up; then mix all this box with $\frac{1}{4}$ pint of wheat-meal, lay in same place as the feed, and mix with a knife or spoon." One box contained one ounce of a white powder, in which were found 258 grains of white arsenic. The other box was broken, and apparently some of its contents lost. It contained $\frac{3}{4}$ oz. of white powder, in which were found 155 grains of white arsenic.

The defendant, a man 83 years of age, did not dispute the accuracy of the analyst's certificate, and said he purchased 10 lbs. of arsenic many years ago. He promised not to sell poison again.

In view of this promise and of the defendant's age, the Bench bound him over to come up for judgment if called upon.

THE SALE OF POISONS BY UNQUALIFIED ASSISTANTS.

At the Hull County Court, on June 9, before his Honour Judge Bedwell, the Council of the Pharmaceutical Society brought an action against Mr. Richard Tebb, Drypool, to recover a penalty of 5*l.*, incurred through the defendant selling poisons, he not being a registered person within the meaning of the Pharmacy Act for the Sale of Poisons.

Mr. Grey, barrister, who appeared for the plaintiffs, stated that he was instructed to press the matter on behalf of the Society. The defendant was an assistant with his father, at 45 Beaumont Street, Drypool, and was not on the register of the Society, although his father was. On January 21 last he sold sixpennyworth of laudanum and a pennyworth of oxide of mercury, a drug better known as red precipitate, both of which were included in the schedule in the Act of 1868 as poisons. These were sold to a woman named Hannah Smith, of Keadby, while the defendant was going his rounds.

Evidence was called in support of the case, Mrs. Smith

stating that she ordered the laudanum a fortnight previous, but she bought the precipitate at the time the defendant delivered the laudanum.

Defendant said that since he had received a notice from the Society he had not carried any poisons except those that were ordered. He asked his Honour if an errand-boy delivering poison for his master and receiving pay for it was liable as salesman.

His Honour: You have hit the nail on the head; that is the all-important point. He gave an affirmative answer.

Mrs. Smith was recalled, and, in reply to his Honour, said she had been instructed by the Society to order the laudanum and purchase the precipitate from defendant.

His Honour (to defendant): You see, the trap was set, and you ran right into it.

Mr. Tebb, senior, was called, and stated that he was not aware that sending poisons by a messenger who received the pay was an infringement of the Act. Errand-lads were frequently employed to carry poisons to customers; in fact, a small chemist could not carry on his business without so doing, and he did not think they should be harassed by the Society in that way.

His Honour: Is it a fact that errand-boys receive money? Yes, your Honour.

His Honour having commented upon the importance of the point, said he was satisfied that the precipitate was bought from the defendant, it not having been previously ordered, which was an infringement of the Act, and he gave a verdict for the plaintiffs for the penalty claimed.

A MANAGER'S CLAIM.

In the Queen's Bench, London, on Monday, before Mr. Justice Cave and a jury, Mr. Samuel Bland brought an action against Messrs. John Richardson & Co., Leicester (Limited), wholesale druggists, to recover damages for wrongful dismissal and for shop-fittings, &c.

Counsel for the plaintiff stated that his client had acted as agent and traveller for the defendant company for a great many years, and since 1888 he had been manager of the London depot. In 1888, when he opened the London branch at 3 Great Russell Street, an agreement was made for another seven years, under which plaintiff was to receive a salary ranging from 140*l.* to 200*l.*, with commission. Prior to 1888 plaintiff had been receiving 250*l.* a year, with expenses. The defendants broke the agreement by giving the plaintiff three months' notice to terminate his engagement in January, 1892. Mr. Bland repudiated the notice, and contended that his engagement lasted for three and a half years longer. He was obliged to bring this action to recover salary and 150*l.* for the shop-fittings.

For the defence, Mr. John G. Richardson gave evidence that the plaintiff had the premises in Great Russell Street on lease, and in 1888, being in want of a tenant, he persuaded the firm to open a London depot. Witness would have preferred doing business direct from Leicester, but plaintiff said it would be very convenient for London houses wanting drugs in a hurry, and the shop would not cost much to fit up. Plaintiff also said he would pay for the fixtures. The London depot never paid, and so defendants were obliged to discontinue it. They were willing to continue Mr. Bland as traveller, but he would not come to terms about the depot, and they were obliged to give him notice. They paid 30*l.* into court in satisfaction of plaintiff's claim.

The jury awarded the plaintiff 105*l.* beyond the 30*l.* in court.

Judgment accordingly, with costs.

"GASSED" AT A CHEMICAL-WORKS.—EMPLOYER'S LIABILITY.

At the Blackburn County Court, before Judge Coventry and a jury, on June 12, Matthew Geldart, as the father of John Geldart, deceased, sued Messrs. Odley, Tolkein & Co., his employers, for 312*l.* damages, caused by his son's death. The plaintiff's son was formerly a sort of working foreman at the Novas Works, earning wages of 2*l.* per week, and paying his father a guinea a week for board and lodging. The defendants had only been in the chemical trade about two years, and part of their manufacture was chloride of zinc. Ordinarily they made the chloride with flux skimmings

and muriatic acid, but in November last they received an order for some chloride of zinc to be made from the pure spelter. This was a very dangerous operation, unless carefully carried out. The spelter was placed in cisterns, and muriatic acid poured upon it, and the fumes arising from it came quicker and were more deadly than those from flux skimmings. The deceased Geldart had no special knowledge of chemicals, and in carrying out the operation he became "gassed." He inhaled the fumes and was overpowered by them. He was carried home; but five days afterwards he died of arsenical poisoning. It was contended that the defendants were liable for Geldart's death, because they had allowed a defect to obtain in the plant for the manufacture of this chemical by not having the cisterns enclosed and the acids poured in through a pipe or trough. Since this accident the company had provided the men with nose-bags.

Mr. F. H. Tate, analytical chemist, of Liverpool, said that if a man were employed pouring acid on the spelter in the way described it would be an improper and unsatisfactory thing to do. The only suggestion he could make to explain the fact that the deceased was "gassed" was Geldart must have held his head over the cistern while pouring in the acid. The cistern at the defendants' works was a proper one for using spelter if proper precautions were taken.

For the defendants it was submitted that there was no case on the evidence, as the deceased man was not a "workman" within the meaning of the Act, and that, if he were, he had been guilty of contributory negligence by performing work which he was only engaged to superintend.

His Honour overruled these points.

Mr. Harlock, chemical manufacturer, of Manchester, said the apparatus in defendants' works for taking away the gas fumes were such that a workman might have poured the acid on to the pure metal without danger.

His Honour having summed up, the jury returned a verdict for the plaintiff. Damages, 104*l*.

Bankruptcies and Failures.

Re WILLIAM HENRY WESTMORELAND, 7 St. Helen's Terrace, North Kensington, Chemist.

THIS debtor filed his petition at the London Bankruptcy Court last Monday, when, upon the application of Messrs. Clarke, Rawlins & Co., solicitors to the proceedings, the usual receiving-order was made against the estate. The debtor states that he holds the above premises on a lease having four years to run, at a rental of 65*l*. per annum, one quarter to Lady Day being in arrear. He has stock and fittings, 50*l*.; book-debts, 10*l*.; and household furniture, 10*l*. The business is being carried on, the takings being returned at about 5*l*. weekly.

Re THOMAS JAMES UNWIN, 17 Regent Street, and 6 Belgrave Mansions, W., Perfumer.

THE first meeting of creditors under this failure was held at the London Bankruptcy Court, on June 7, before Mr. A. H. Wildy, Official Receiver. The debtor began to trade about forty years ago in Piccadilly. He attributes his failure to falling off of the business during the past three years, to the profits having been insufficient to meet expenses, and to payment of interest on money raised on mortgages. The accounts show unsecured debts 998*l*. 17*s*. 4*d*., and fully-secured debts 4,581*l*. On the other side are assets valued at 1,911*l*. 10*s*. 1*d*., after deducting the preferential claims. Included in the assets is a sum of 675*l*. that had been realised from the sale of the goodwill and stock. The Chairman expressed a hope that the creditors would receive 20*s*. in the pound, but pointed out that it chiefly depended upon the anticipated surplus from mortgaged properties. The meeting decided to leave the case in the hands of the Official Receiver to be

wound up in the usual course of bankruptcy. The following are the principle unsecured creditors, viz.:—

	£	s.	d.
Arrault, J. A., St. Cloud, Paris	53	8	6
Brookfield, Dr., Brondesbury	22	0	0
Buller, G., & Co., Holborn Viaduct	19	14	9
Clark & Mausell, Great Castle Street, W. ..	18	0	0
Cresswell Bros., Red Lion Square, W.C. ..	32	17	0
Creswick & Co., Great Portland Street, W. ..	12	18	9
Edwards, J., & Son, Stamford Hill	11	6	9
Ellis, R., Sinclair Mansions, Uxbridge Road, W. ..	15	0	0
Gatkin & Co., Hatton Garden	18	0	0
Holstead, F., 17 Regent Street, W.	100	0	0
Hovenden, R., & Sons, Berners Street, W. ..	69	0	2
Jenner & Co., Belgrave Mansions, W.	12	0	0
Loonen & Greaves, Dyer's Buildings, Holborn ..	10	0	0
Munt & Sons, Cross Street, Hatton Garden ..	12	10	0
Neville, G., & Son, Holloway	11	12	6
Newman, A., Sutherland	60	0	0
Osborne, Garrett & Co., Frith Street, Soho ..	118	1	0
Queen, Bream's Buildings, E.C.	42	0	0
Randall, H., West Hampstead	11	10	8
Rutty, —, Church Street, Soho	25	0	0
Schmutter & Bompard, Grasse	28	2	6
Smith, C., care of Messrs. Smith, Son & Downes, Queen Victoria Street, E.C.	40	0	0
Sweet, —, Maygrove Road, Brondesbury	53	10	0
Taylor, H., & Co., Shawfield Street, Chelsea ..	10	5	10
Toogood, W., Burlington Buildings, W.	17	6	5
Unwin, Miss, Maygrove Road, Brondesbury ..	50	0	0
Warriek Bros., Old Swan Lane, London Bridge ..	38	6	0

New Companies.

HALL & CAMERON (LIMITED).—Capital, 500*l*. in 1*l*. shares. Objects: To acquire an absorbent deodorising and disinfecting preparation, and to carry on business as chemical and deodorising compound manufacturers, disinfectant manufacturers, &c. The first subscribers (who take one share each) are: C. S. Sims, 4 Elm Grove, Cricklewood, clerk; D. O. Mackenzie, 106 Leadenhall Street, E.C., analyst; S. H. Latham, 1 Whittington Avenue, E.C., secretary; E. T. Fryer, 38 Lincoln Street, Mile End, clerk; A. Webber, 405 Kennington Road, S.E., clerk; J. Kent Jones, Glengall Road, S.E., gentleman; and M. B. Cormack, 86 Leadenhall Street, E.C., secretary. Registered without articles of association.

CARBOLIC SMOKE-BALL COMPANY (1893) (LIMITED).—Capital 35,000*l*., in 1*l*. shares. Objects: To acquire and carry on the business of manufacturers of and dealers in two preparations, known respectively as the Carbolic Smoke-ball and Sunilla, as carried on by the Carbolic Smoke-ball Company (Limited). The first subscribers (who take one share each) are:—J. M. Taylor, 122 Queen's Gate, S.W., solicitor; G. S. Smith-Spark, 9 Cunningham Place, N.W., solicitor; H. Wynn, 38 Rectory Road, S.W., clerk; W. Ostler, 50 Chesnut Avenue, Forest Gate, clerk; D. J. Lark, 50 Arthur Road, Holloway, N., clerk; E. H. W. Wiles, 9 Downton Villas, Earlsfield, clerk; W. J. Bradley, Tower House, Wood Green, managing-clerk. There shall not be less than three nor more than five directors. Qualification, 50*l*. Remuneration, 2*l*. 2*s*. each for each board attendance; chairman, 1*l*. 1*s*. extra.

MARK SMITH (LIMITED).—Capital 6,000*l*., in 1*l*. shares. Objects: To acquire the business of Mark and Wm. Henry Smith, at Louth, Lincoln, and of Alfred Blackie, at Port Dundas, Glasgow, and to carry on business as manufacturers of insecticides, weed-killers, sheep-dips, worm-destroyers, foot-rot preventatives, &c. The first subscribers (who take one share each) are: M. Smith, Eastgate, Louth, chemist; Kate Smith, wife of above; Maria Hurley, 5 Priory Terrace, Louth; W. H. Smith, Louth, merchant; Louisa E. Smith, wife of W. H. Smith; Alfred Blackie, 97 Milton Street, Glasgow, manufacturing chemist; Agnes H. M. Blackie, wife of A. Blackie. The first directors are: Mark Smith, W. H. Smith, and A. Blackie. Qualification, 50*l*.; remuneration to be determined by the company in general meeting. Mark Smith is managing director with a salary of 30*l*. per annum.

Trade Notes.

LIEBIG'S EXTRACT OF MEAT COMPANY (LIMITED) notifies an additional dividend for the year 1892 of 2*l.* 10*s.* per share, tax free, making, with the interim dividend, 17½ per cent. for the year.

THE Admiralty have again contracted with Messrs. Robert Ingham Clark & Co. for a large proportion of the supply of varnishes—some 7,500 gallons in all—including the whole of the body varnish requirements.

WE understand that the representation for the United Kingdom of the firm of E. Merck, chemical-manufacturers, Darmstadt, and 16 Jewry Street, E.C., will be transferred, from July 1, into the hands of Mr. Fred Boehm, of 4 Cullum Street, E.C.

WE understand that Messrs. Frazer & Green, of 127 Buchanan Street, Glasgow, have *carte blanche* from the Cunard Company in fitting-out the dispensaries of their steamers. The *Campania* dispensary was entirely arranged by the firm, who even supplied the drawings of it to the builders of the ship. Messrs. Frazer & Green are at present engaged in supplying the pharmaceutical requirements of the *Campania's* sister-vessel the *Lucania*, and among other "greyhounds" which the same firm have supplied with dispensaries are the *City of Paris*, *Empress of India*, *Empress of Japan*, and *Empress of China*.

MESSRS. J. GROSSMITH, SON & CO., of 85 Newgate Street, have lately devoted their skill as perfumers to the production of a new perfume in honour of the approaching Royal wedding. They have succeeded in manufacturing a peculiarly sweet bouquet, and they have obtained special permission to dedicate it to the heroine of the hour—the Princess May. Mr. Grossmith made the personal acquaintance of the Princess and of other members of the Royal Family when they visited the factory of M. Bruno Court at Grasse a year or two ago. Mr. Grossmith, who is M. Court's English agent,



was in the factory at the time, and acted as cicerone to the party. The bottle of the "Betrothal Bouquet" which has been put up for Royal delectation is a specially-cut bottle containing some 16 oz., with a massive gold top, enclosed in a silk-lined morocco case. Messrs. Grossmith have received a letter intimating that the Princess May "will accept with thanks the lovely bottle sent by Mr. Grossmith containing the Betrothal Bouquet." The title has been registered as a trade-mark, and Messrs. Grossmith hope that loyal subjects will find it a duty and a pleasure to odourise themselves with the same perfume. For ordinary people the scent is put up in 1½-oz., 3-oz., and 6-oz. bottles.

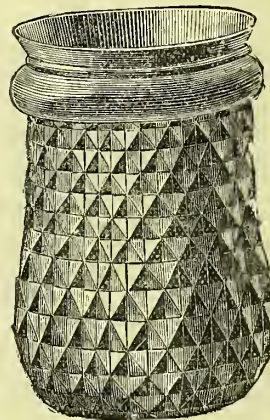
MESSRS. FUERST BROTHERS send us a sample of "Glycin-Hauff," a new developer, with complete instructions for use. The sample was tested by a practical photographer, who reports that he used it to develop a landscape photograph, and obtained with it a beautifully soft, clear negative, full of detail and gradation. This developer, he adds, should be suitable for producing negatives for collotype where softness is required.

THE Carbo-Eucalyptine Volatile Sanitary Tablets, shown in the annexed sketch, are very convenient in use and sweeten the air of water-closets, urinals, sinks, and close



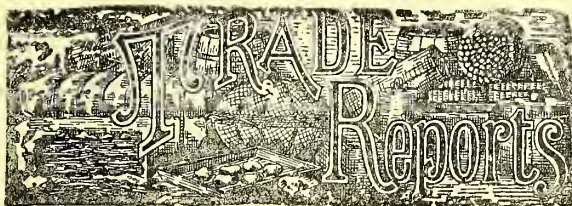
rooms, to a notable extent. They are supplied with a wire hook, so that they can be readily suspended in w.c. pans or other positions. Chemists should find these articles very saleable during the summer.

MESSRS. E. A. HEARN & CO., of the Eclipse Glass-works Lower Clapton, London, have produced and patented a prismatic lamp suitable for illuminations. A big demand is already springing up for this lamp in anticipation of the Royal wedding. In these lamps a ring for a wire is moulded in the



neck, and they are made with a flat bottom so that they can be placed in any position. They are made of the best glass and in many brilliant colours. The firm will be glad to supply them to loyal chemists, in lots of five gross, at five guineas.

PHENOSALYL is a new antiseptic, made by mixing carbolic, salicylic, and lactic acids in molecular proportions, heating to 140° C., and adding a mixture of menthol and eucalyptol with 25 per cent. of glycerine when cold. It is a syrupy fluid of sp. gr. 1.409, soluble in water to the extent of 7 per cent., and it is a much more powerful bactericide than carbolic acid, while it is not nearly so poisonous. It has been used in the Hôtel Dieu, Paris, with good results.



Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., June 15.

The Piperazin Lawsuit.

We are informed that the action brought by the Schering's chemische Fabrik in Berlin against the "Farbwerke vormals Fr. Bayer & Co.," in Elberfeld, in which defendants were sued for infringement of Schering's patent rights in piperazin by manufacturing and offering for sale an imitation of that article, has been decided in favour of Messrs. Scherings.

The Use of Kola.

With reference to the report of the recent sale of a large quantity of kola-nuts in Holland in our last issue, Mr. Thomas Christy writes:—"I hear that the kola-nuts that were sent from Holland to France were wanted for two purposes—the better quality for the food of man, and the common quality to improve the 'horse-bread' which is being made in France to replace hay. The French have never been clever in making, storing, or cutting hay for transport, but this year the hay crop in France has failed altogether, and so a demand for food to be pressed into brick-bread, or 'briquets,' after being ground and mixed, has sprung up in that country. The Americans have already had to face this question, and have found that nothing answered better than poplar-wood as a base for the 'briquets.' I was recommended by friends in Paris to adopt this wood for more than one reason, especially as it is known, and they can command any quantity. We have supplied kola-powder for years to certain feeders of horses here, and a small quantity mixed with the food answers well."

ACID (CITRIC).—The exports remain pretty good, the shipments for the three days ending on Wednesday having been about 11 tons. A Messina report, dated June 7, states that the advance in concentrated juice appears to have reached its climax. January-April, 1894, delivery is already being offered by speculators at 30s. per pipe below the prompt-price. The market is considerably firmer since last week, and to-day the English makers quote respectively 1s. 5½d. and 1s. 5¾d. per lb.; but the one whose quotation is lowest says that he does not care to sell at all. A fair business is passing, and the figures named may be looked upon as the nearest quotations.

ALOES.—Two steamers have come in from South Africa this week, but neither has brought a single case. Good qualities are particularly scarce and could probably not be had under 28s. or 29s.; some inferior grades are offering at 26s. 6d.

BALSAM PERU keeps exceedingly firm at 7s. per lb. on the spot, with very little offering. In New York the current price is reported to be equivalent to 6s. 8d. per lb., c.i.f. terms, or, say, 7s. to 7s. 2d. per lb., laid down in London, usual conditions.

BLEACHING-POWDER is very firm at 9l. 5s. per ton.

CAMPHOR (CRUDE).—No business is reported this week, but holders are generally firmer. Japan is held at 155s. per

cwt., on the spot, and at 142s., c.i.f. for prompt shipment; China at 140s. per cwt., on the spot, and 110s. to 112s. per cwt., c.i.f. terms.

CAMPHOR (REFINED).—The German agents report a pretty brisk trade for delivery from July onwards at 1s. 8d. per lb., net. Their quotation for immediate delivery is still 1s. 10d. per lb. The English refiners, who recently appeared to have some thoughts of reducing their quotations, now tell us that in the face of the present advance in the raw-camphor market they are not likely to make any change. One of the American companies that have lately organised camphor-refining in Japan, and which keeps a trained American chemist, Dr. A. G. Boyer, upon the spot, as manager of its business, is able to produce 50,000 lbs. of refined camphor monthly.

CANARY-SEED.—Higher again after the recent decline. On Tuesday 200 bags *Turkish* seed sold at 60s. per 464 lbs., but after that transaction there were no further sellers at the price.

CHAMOMILES.—The stocks in Belgium, it is said, are cleared. A few bales are still offering in London, but extreme prices are being asked for these, 80s. per cwt. being mentioned in one instance. New flowers are expected in about a month from now.

CHILLIES are cheaper, with small sales at auction of medium dull Zanzibar at 40s. per cwt.

CHLORATE OF POTASH.—A very flat market, at 8¾d. per lb. for June delivery.

CINCHONA.—Tuesday's bark-supplies were somewhat heavier than usual, the total of the ten catalogues being:—

	Packages	Packages
Ceylon cinchona ..	1,186	of which 1,133 were sold
East Indian cinchona ..	1,579	" 1,164 "
Javan cinchona ..	160	" 160 "
	2,925	2,457

For the first time for many months neither South American nor West African barks were offered. The quality of the assortment actually shown was exceedingly poor—worse probably than has ever been seen before. The bulk of the lots consisted of the commonest kinds of *Succirubras*, and the *Officinalis* and *Ledger* barks also scarcely reached the average quality in any single instance. The total quantity of sulphate of quinine represented by the bark was between 6,500 and 7,000 kilos., or about 2 per cent. on the average.

The tone throughout the sales was dragging, and the bulk of the bark sold at a decided decline in price, the average unit for common barks not exceeding 1½d. to 2½d. per lb., being the lowest ever recorded in the history of the article. Good barks would probably bring a somewhat higher unit. Our prices are now about on a par with those realised at the last Amsterdam auction.

The following were the approximate quantities purchased by the principal buyers:—

	Lbs.
Agents for the Brunswick factory ..	150,665
" Auerbach ..	112,186
" Mannheim and Amsterdam works ..	59,184
" American and Italian works ..	58,001
Messrs. Howards & Sons ..	52,740
Agents for the Frankfurt o/M. and Stuttgart works ..	41,343
" Paris factory ..	23,170
Mr. Thos. Whiffen ..	16,160
Sundry druggists ..	46,802
Total quantity of bark sold ..	560,251
Bought in or withdrawn ..	98,222
Total quantity offered ..	658,573

It should be understood that the quantity of bark purchased gives no indication to the equivalent of quinine acquired by the buyer. The following are the prices paid for sound bark:—

EAST INDIAN CINCHONA.—*Original*—Red varieties: Low woody to fair stem and branch chips, 1d. to 1½d.; dust, 1d.; fair shavings, 2d. to 2½d.; dusty root, 1½d. to 2d.; bold broken quilly chips, 2½d.; good druggists' quill, 5d. to 5½d. per lb. Grey varieties: Common chips, 2½d. per lb. Yellow varieties: Low woody to medium stem and branch chips, 1d. to 3½d.; medium to good shavings, 2½d. to 5d.; common

root, $1\frac{1}{2}d.$ per lb. Hybrid chips, $1\frac{1}{2}d.$ to $3\frac{1}{2}d.$; low shavings, $1\frac{1}{2}d.$ per lb. *Renewed*—Red varieties: Common shavings, $1\frac{1}{2}d.$ to $3d.$; fair to good bright chips, $1\frac{1}{2}d.$ to $2\frac{3}{4}d.$ per lb. Grey chips, $1\frac{1}{2}d.$ to $3\frac{1}{2}d.$ per lb.; low yellow chips, $2d.$ to $2\frac{1}{2}d.$ per lb. Hybrid stem chips, $2d.$; shavings, $1\frac{1}{2}$ per lb.

CEYLON CINCHONA.—*Original*—Red varieties: Very woody ordinary to fair quilly stem and branch chips, $1d.$ to $2d.$; low dull to medium shavings, $1d.$ to $2\frac{3}{4}d.$; common dusty root, $1d.$ to $1\frac{3}{4}d.$ per lb. Grey varieties: Common poor to medium stem and branch chips, $1\frac{1}{2}d.$ to $2\frac{1}{2}d.$; a few fair lots, $3\frac{1}{2}d.$; branch and dust mixed, $1\frac{1}{2}d.$; dull to fair root, $2d.$ to $4d.$; low to good shavings, $1\frac{3}{4}d.$ to $4\frac{1}{2}d.$ per lb. Yellow varieties: Common woody chips, $1d.$ to $2\frac{3}{4}d.$; a few fair quilly parcels, $4d.$ to $4\frac{1}{2}d.$; fair shavings, $4\frac{1}{2}d.$; low to fair root, $1\frac{1}{2}d.$ to $4\frac{1}{2}d.$ per lb. Hybrid: Chips, $1\frac{1}{2}d.$ to $2\frac{3}{4}d.$; shavings, $8\frac{1}{2}d.$; root, $2\frac{1}{2}d.$ to $2\frac{3}{4}d.$ per lb. *Renewed*—Red varieties: Low to medium stem and branch chips, $1\frac{1}{2}d.$ to $1\frac{3}{4}d.$; ordinary shavings, $2\frac{1}{2}d.$ per lb. Grey varieties: Low to fair medium chips (stem and branch), $1\frac{1}{2}d.$ to $2\frac{3}{4}d.$; fair ditto, $3d.$ to $4\frac{1}{2}d.$ per lb. Yellow chips, $4d.$; shavings, $4\frac{1}{2}d.$ to $4\frac{3}{4}d.$ per lb. Hybrid chips, $2d.$ to $2\frac{3}{4}d.$; shavings, $2\frac{1}{2}d.$ per lb.

JAVA CINCHONA.—*Succirubra* and Hybrid chips, $2\frac{3}{4}d.$ to $4\frac{1}{2}d.$; Ledger branch and stem chips, $2\frac{3}{4}d.$ to $3d.$ per lb.

The exports from Java for the nine months ending March 31 have been as follows:—

—	1892-93	1891-92	1890-91	1889-90	1888-89
	Amsterdam lbs.	Amsterdam lbs.	Amsterdam lbs.	Amsterdam lbs.	Amsterdam lbs.
Government plantations ..	473,714	515,352	450,212	445,940	558,712
Private plantations ..	5,322,003	5,811,278	5,348,211	3,377,432	2,717,862
Totals ..	5,795,717	6,326,630	5,798,423	3,823,372	3,276,574

CLOVES.—*Zanzibar* cloves are still falling in price, and there appears to be very little hope of keeping the market even at its present low level. There has been a sale of 600 bales on the spot at $2\frac{1}{2}d.$ per lb., and business has also been done at $2\frac{1}{2}d.$ to $3\frac{1}{2}d.$ per lb., c.i.f. terms, for October-December, and $2\frac{1}{2}d.$ to $3d.$ per lb. for August-October shipment. At auction none were offered. The decline is ascribed to the financial embarrassment of a London speculator. The market closes rather firmer.

CREAM OF TARTAR quietly steady at 76s. 6d. to 77s. per cwt. for best white French crystals; and 79s. per cwt. for powder.

CUBEBS.—The following figures relate to the exports of cubebs from Java in the nine months ending March 31:—

Year ..	1892-3	1891-2	1890-1	1889-90	1888-9
Piculs ..	2,192	1,184	884	742	318

ERGOT OF RYE.—The market is steady, and it is believed that the crop in Belgium and France will be very small this year.

GALLS.—*Turkey* galls are quiet, with small sales of good Bassorah blues at slightly lower prices. The quotations may now be given at 56s. 6d. to 59s. for blue, 46s. to 49s. for green, and 42s. 6d. to 47s. 6d. per cwt. for white galls, of which fine grades are scarce. Blue Aleppo galls have been sold at 56s. 6d., green ditto at 46s. per cwt. Fine blue Smyrna galls are firmly held. The market for *China* galls remains exceedingly quiet. Fair galls on the spot are worth 55s. to 56s. per cwt. The last business reported for arrival was at the rate of 53s., c.i.f. Continent, and 53s. 6d., c.i.f. terms, just landing.

GINGER.—At the weekly auctions *Cochin* ginger advanced 1s. to 2s. per cwt., while *Jamaica* was also in demand, though at somewhat irregular rates. The following prices were paid:—New medium washed rough, 56s. to 57s. 6d.; dull old washed rough, 54s. 6d.; new-cut ends, 55s. per cwt. Of *African* ginger 40 bags sold at 47s. 6d. to 49s. per cwt. *Jamaica* brought 92s. to 100s. for fine selected bold, 81s. to 87s. for good bright, 73s. 6d. to 77s. for medium bright, 68s. to 73s. for small and lean to low medium dull washed, 62s. to 66s. 6d. per cwt. for common to good common scraped.

* GUM ACACIA.—*Soudan* sorts are difficult to sell, although holders would not be unwilling to make concessions.

Gehzirah gum offers at 35s. to 40s., but of *Talca* there is none on the market.

GUM TRAGACANTH.—Business is very restricted in all kinds, and the quotations remain unchanged.

INSECT-FLOWERS.—The imports of insect-flowers from Trieste and Fiume have been very considerable this week. Prices have advanced since our last report, the present quotations, all c.i.f., being 84s. for closed, 77s. for half-closed, and 67s. 6d. for open flowers.

ISINGLASS.—At auction on Tuesday prices were rather irregular. *Brazilian* isinglass was firm, with sales of common to fine lump at 1s. 10d. to 2s. 8d. *West Indian* lump brought from 1s. 10d. to 2s. Good *Saigon* sold at 3d. to 6d. decline, common brown to good leaf at 3s. 6d. to 4s. 7d., round leaf 3s. 1d. to 4s., pouches 1s. 3d., ordinary bold purse 1s. 3d. per lb. *Russian* isinglass brought 9s. 6d. per lb. for fine Beluga leaf, and 7s. per lb. for brown. *Bombay* leaf and purse were 1d. to 2d. lower, pipe 2d. to 3d. lower, but *Penang* leaf realised from 3d. to 4d. advance.

JALAP.—Business is reported to be fairly brisk, and sales have been made of good heavy mixed Vera Cruz at 1s. 1d. per lb. privately; only a few bales of this quality are now left in the open market. Ordinary light root would be worth 10d. to 11d. per lb. Among the drug imports of this week is one of a case of jalap from Bombay.

LIQUORICE-ROOT.—The present nominal price runs from 25s. to 30s. per cwt. for good decorticated, down to 6s. to 10s. per cwt. for rough root. The market is quite neglected.

MORPHIA.—The market is very firm, but prices have not followed the rise in opium to any extent. Morphia in powder may be had from the makers at 6s., and in second hands probably 3d. to 4d. less.

OIL (CASTOR).—Lower quotations come both from Marseilles and Italy, the prices from the first-named place being 22l. per ton for first pressing, 20l. 10s. for second pressing, both f.o.b. Marseilles, and $3\frac{1}{2}d.$ per lb., London, terms for medicinal oil in cases and tins. Small sales of Calcutta seconds are reported on the spot at $2\frac{3}{4}d.$ per lb., but for future shipment there are sellers at lower prices than that.

OILS (ESSENTIAL).—*Oil of Cloves* is much lower, in sympathy with the great drop in the spice. The English makers, who have been selling privately in quantities for some time at 2s. 10d., have now further reduced their prices, and the present quotations are from 2s. 6d. to 2s. 7d. per lb. for quantities. *Star-anise* oil has advanced this week, and on the spot holders speak of 5s. 9d. as the quotation; for prompt shipment, 5s. 5d. c.i.f. is mentioned. *Mitcham Peppermint* oil is considerably dearer; the quantities which were offering at 24s. about a week ago are now raised to 28s. *Menthol* shows no alteration in price, but Japanese peppermint oil is rather firmer. Very little is offering on the spot. For arrival 8s. per lb., c.i.f. terms, is quoted. The distillation of *Otto of rose* in Bulgaria is still proceeding, but no reliable information concerning the result has yet been telegraphed.

OPTUM.—The London market, after last week's heavy sales, has been rather quiet, although small lots continue to change hands at very full prices. For fair to good *Persian* opium, from 11s. to 11s. 6d. per lb. has been paid; and fine qualities cannot be had below 12s. per lb. Good to fine *Soft shipping* is now worth from 13s. to 14s. per lb.; *Druggists'* from 12s. to 12s. 6d. per lb. for good to fine; and from 11s. to 11s. 6d. per lb. for seconds. Ordinary to fine *Constantinople* is quoted at 11s. to 12s. 6d. per lb. We hear from Smyrna that in the week ending June 2 only the small local speculators had made sales, the large holders preferring to keep their stocks out of the market, which closed very firm with buyers. All the reports from the elevated growing districts in the interior agreed that the plants were in a very bad condition, and that the yield was very poor. "These reports," our informant continues, "show that the coming season will be a very difficult one for the buyers. The minds of the dealers in the interior are greatly excited, and buyers will require all their tact and powers of judgment to buy when orders of some magnitude are placed upon the market." Most of the London holders, acting upon the advices received from Smyrna, have raised the limits of their stock considerably since yesterday.

POPPY-HEADS.—It is now generally believed that there will be no English crop worth mentioning this year, and, under those circumstances, the continental poppies, of which the crop is due in about a month, will be much dearer than usual.

QUICKSILVER.—On Tuesday the principal importers raised their price by 2s. 6d.—viz., to 6l. 17s. 6d. per bottle. Second-hand holders are now offering from 6d. to 1s. below that figure. There has been an arrival of 4,561 flasks from Seville. We are informed that before raising his price the principal importer had sold 5,000 bottles.

QUININE has been a blank this week so far as business in London is concerned. There was an order in the market yesterday for German quinine in bulk, at 9½d. per oz., but it could not be executed, holders asking 9¾d., though probably they would be inclined to split the difference.

SCAMMONY.—The stock of root on our market is said to be exhausted. The last nominal quotation was 30s. to 35s. per cwt. Fine scammony is in small supply, and is held for 22s. to 23s. per lb.; first and second quality mixed has recently sold at 20s. per lb. Lower grades, as well as resin and skilipe, are neglected and in abundant supply. A fresh arrival of 36 bags of root has just been received from Alexandria.

SENNA.—The *Mirzapore* has brought 297 bales of Tinevelly senna from Bombay this week.

SHELLAC has declined this week. Last Friday there were sellers, but no buyers, of orange TN at 108s. 6d. for August, and a small sale for September delivery was reported at 108s. per cwt., and since then a rather large amount of business has been done at continually changing rates, closing rather firmer again. At auction 775 cases shellac were partly sold "without reserve" at a decline of 1s. per cwt. on *orange* and *garnet* lac, the following being the prices paid:—Second orange, unworked, fair reddish, partly in block, to fair bright blocky, 96s. to 100s.; button, unworked, fine pale blocky, 67½s.; resinous caky firsts, 5l. 15s.; ditto seconds in circle, 5l. 5s.; unworked weak glassy AC, 94s. per cwt.

STICKLAC is declining. At auction 166 cases fair, rather dusty, *Siam* sold at 55s. to 56s. per cwt.; fine sifted brought 62s. 6d. per cwt.

TAMARINDS.—A parcel of 31 barrels new Barbadoes tamarinds sold at 15s. per cwt. at the spice-sales this week.

TONQUIN BEANS.—New York advices state that the stock of a large operator in Tonquin beans, consisting of 25,000 lbs. of Angostura beans, was disposed of within the week to a consumer, and that the removal of this lot from active competition with the local stocks has materially stiffened the tone of business. Many dealers consider that much higher values will soon prevail in this article. The exports of Tonquin beans from Ciudad Bolivar, the chief centre of the trade in Venezuela, amounted to 89,050 lbs. in 1892.

TURMERIC.—Two hundred bags *Bengal* turmeric sold at auction on Tuesday at lower rates—viz., 14s. 6d. to 15s. per cwt. for ordinary damp finger, with "all faults." Split *Cochin* bulbs are offering at 8s. per cwt. The condition of most of the recent arrivals of turmeric is exceedingly poor.

VARNISH GUMS.—At to-day's auctions large quantities of *Korrie* gum sold at 5s. to 10s. decline for picked, 5s. to 7s. 6d. decline on sorts, and 7s. 6d. to 10s. decline on black gum. Chips were also lower, but upon the whole the sales went off better than had been expected, and Bush gum brought extremely high prices. Singapore *Damar* gum was rather easier, *Animi* and *Olibanum* dull of sale, and *Copal* quiet.

WAX (JAPAN).—Fair pale squares are offering, to arrive, at 33s. per cwt., c.i.f. terms.

THE SMYRNA OPIUM MARKET.

(Telegram from our Correspondent.)

Smyrna, Wednesday night.

Our market is excited and advancing. The American agents have bought 40 cases this week, Yerlis and Talequales up to 12s. 5d. per lb., f.o.b. Smyrna—a rise of 11d. per lb. since last Wednesday.

THE LONDON CHAMBER OF COMMERCE.

THE annual meeting of the Chemical-trade Section was held at the offices of the London Chamber of Commerce, in Eastcheap, on Monday afternoon, June 12. When Mr. Charles Wightman, the Chairman, rose to give the statement with which it is customary to open the proceedings at these gatherings, only a dozen gentlemen, including himself, were assembled around the massive table of the meeting-room.

The Chairman pointed out that it was now very nearly two years ago since the last meeting of this kind took place, and several questions of interest had come before them in the meantime. A special committee had been appointed to consider the sale of rotten and damaged drugs in Mincing Lane. This committee had arrived at the conclusion that they could not recommend the Section to take steps to prevent the sale of such goods (which were often perfectly suitable for manufacturing purposes apart from their medicinal properties) provided the drugs were properly described in the catalogues. A chemical-manufacturer had submitted to the Section a scheme for regulating the sale of quinine which would practically have dictated to the retail chemist the price at which he would have to sell that drug. The proposal was ostensibly made in the interest of the cultivators of cinchona, but the Section did not feel that they could recommend its adoption.

One of the most important matters that had arisen during the year was the question of the impurities in citric and tartaric acids. Although the Woolwich case, in which a retailer was prosecuted for selling acid containing lead, was dismissed, the druggists thought that the sale of these important drugs should be put upon a more satisfactory footing, and they, in common with the drug-club, had taken united action to induce manufacturers to adopt means for producing a purer article than had hitherto been placed on the market. The English manufacturers had made these improvements, as suggested, and it was fair to say that the foreign makers had also made a considerable stride forward; but the sub-committee which was to lay down a suitable test had not yet terminated their labours, though he hoped it would not be long now before they could lay a satisfactory proposal before the Section.

All those present were aware of the establishment of a Chamber of Arbitration in the City. They, as a Section, had nominated a considerable number of men connected with the wholesale trade to serve as arbitrators, but the chemical-trade, happily, was one of peace, and no occasion had yet arisen for calling upon the services of any of the chemical-arbitrators. A representation had been made to the Somerset House authorities, on behalf of the Section, suggesting the amendment of the regulations relating to the export of spirituous medicinal preparations by making it optional to export such goods either by weight or by volume.

The Section had recorded its protest against Mr. Fenwick's Bill for amending the Merchandise Marks Act, which proposed, among other things, to render it obligatory to place the name of the manufacturer and the place of manufacture upon all goods, whether home-made or imported. Another Parliamentary measure which had been considered was the Government inquiry into dangerous employments. With regard to the Employers' Liability Bill, a resolution had been carried by the Section asking the Council of the Chamber to urge upon the Government the reduction of the maximum damages for which an employer could sue his employer in the County Court under this Bill from 100l. to 50l., and demanding that where more than 50l. was awarded the employer should have the option of carrying the case to a higher Court. Unfortunately, in Committee of the Bill, one of the Labour members had moved that the amount should be increased from 100l. to 500l., and that the employer should not have power to carry the award to a higher Court, and the House of Commons, as a compromise, had adopted a maximum of 300l. He had since seen Sir Albert Rollitt, M.P., who had promised him to use his best efforts to have the figure of 300l. again reduced to 50l. upon the report stage of the Bill, but there did not seem to be much prospect of success.

After some remarks by Messrs. Charles Umney, T. Tyrer, and D. Howard, Mr. Charles Wightman was unanimously re-elected as Chairman, and Mr. Umney as Deputy-Chairman, of the Section for the ensuing year.



Memoranda for Correspondents.

In letters for publication correspondents are requested to express their views as concisely as possible.

Correspondents should write on one side of the paper only, and devote a separate piece of paper to each subject of inquiry.

The name and address of the writer should accompany all communications with, if desired, a distinctive nom-de-plume.

Wine-essences.

SIR,—I have been in communication with the Commissioners of Inland Revenue on above subject for some time, and have at last received a favourable decision, which I think it as well to make known to the trade through your valuable paper. Copy of letter is subjoined.

Yours, &c.,
T. A. RONCHETTI.

Thornaby-on-Tees, June 13.

[Copy of letter from Inland Revenue Commissioners.]

Inland Revenue, Somerset House, London, W.C.,
12th June, 1893.

SIR,—In reply to your letter dated the 26th April last, &c.,

I am directed by the Board of Inland Revenue to acquaint you that they have consented to refrain from interfering with the manufacture and sale of ginger-wine or raspberry-wine essences, without licence, when intended for temperance and summer beverages, on condition that the percentage of vegetable acid (tartaric and citric) is not less than the percentage of proof spirit contained in the mixture.

I am, Sir, your obedient servant,
ROBERT MICKS, Secretary.

Irish Moss as Cattle-food.

SIR,—Now that provender for cattle is so scarce the chemist in the agricultural district might to advantage sell more Irish moss, which used to be in such heavy demand some years ago in times of scarcity of cattle-provender. The difficulty is that some of the farmers do not know how to use it, and pharmacists may therefore be glad to have the following instructions for its application: For feeding calves—1 lb. of dry moss washed in cold water, then boiled for four hours; when lukewarm to be strained and mixed with milk or bran. For cattle and pigs—1 lb. of dry moss washed in cold water and boiled in 10 gallons of water for two hours; when cold to be mixed with oatmeal, barley meal, or Indian-corn meal. For horses—with cut hay or straw.

Yours truly,

May 25. A WHOLESALE DRUGGIST. (44/68.)

Cheap-Shop Risks.

55/74. "Wideawake" sends a statement that a lady who had been advised to apply carbolic oil to her chest went to a cutting establishment for the article, and was supplied with carbolic acid, which, however, was labelled "carbolic oil." "When," asks our correspondent, "will the public see the importance of patronising a duly registered chemist for their medicines, and turn their backs on all stores and cheap-jacks?"

DISPENSING NOTES

Correspondents should consult "The Art of Dispensing" in regard to dispensing difficulties. Difficulties not explained therein may be sent to the Editor, who invites a general expression of opinion upon the under mentioned topics.

52/71. Mixture of Quinine, Iron, and Phosphoric Acid.—E. H. has tried to dispense the following mixture in various ways, but has always found a precipitate formed on the addition of the quinine or the calumba. It

had been returned by the doctor from the patient's house as wrongly dispensed:—

Quin. sulph.	..	..	..	..	5i.
Ac. phosph. dil.	..	..	..	..	5iv.
Tr. ferri perchlor.	..	..	..	..	5iv.
Glycerin.	..	..	..	..	5j.
Inf. calumb. ad	..	..	..	..	5viij.

M. Ft. mist.

When dispensed exactly as written the precipitate cannot be avoided, but if acid. sulph. dil. q.s. be used to dissolve the quinine, and the tincture of iron added last, a nice clear mixture is the result. Some dispensers keep a stock solution of quinine dissolved in the acid, and would likely use it for such a mixture, either knowing it to improve the appearance or simply to save bother. The precipitate consists principally of phosphate of iron.

53/17. *Pil. Prandii.*—Mastic and Aloes Pill.—The reason why these pills have gone soft is that too much spirit has been used to mass them. Use the least possible quantity, a warm mortar, and work the mass well.

Ext. aloes. aquos.	..	..	..	..	5j.
Mastic elect.	..	..	..	..	5i.
Spt. vini rect.	..	..	..	..	q.s.

Ft. pil. xxiv.

54/6. *Calyx.*—Essential Oils and Water.—How can the cloudy appearance be obviated on mixing the following mixture in water?—

Sodii salicylatis	..	..	..	..	gr. x.
Spt. vin. rect.	..	..	..	..	3v.
Aque	..	..	..	..	5iij.
Ol. gaultheriæ	..	..	..	..	℥ij.
„ menth. pip.	..	..	..	..	℥ij.
„ caryophyll.	..	..	..	..	℥ijv.

M.

To obtain solution miscible in water change the quantities of water and spirit, dissolve the salicylate in the water, add about 40 grains magn. carb. lævis, then the mixture of oils and spirit, and filter through paper first moistened with plain water.

54/74. *A Lanolin-and-Lead Lotion.*—Qualified says the subjoined prescription was handed in to a West-end pharmacy. His difficulty has been to get the lanolin to mix:—

Liq. plumbi acet.	..	..	..	..	5iij.
Lanolin	..	..	..	..	5iij.
Aq. calcis ad	..	..	..	..	5xiij.

M. Ft. lotio.

Try it this way, which will give you a more satisfactory product:—Melt the lanolin; add to it 1 oz. of olive oil, and, while still warm, add the lime-water gradually, and, lastly, the liq. plumbi.

54/70. *Dispenser.*—Iron, Quinine, and Ammonia.—It is impossible to dispense the mixture you give clear unless it is filtered, which would be a waste both of time and material. Add a little mucilage and the spt. ammon. aromat. last, and label "Shake the bottle."

Spt. ammon. aromat.	..	..	..	..	5ss.
Ferri et quin. cit.	..	..	..	..	5iss.
Potass. bromidi	..	..	..	..	5ij.
Tr. aurantii	..	..	..	..	5ss.
Aque ad	..	..	..	..	5viij.

M.

56/32. *Olive Oil and Litharge.*—Wadlo wishes to know whether an oleate is intended, or simply the powder mixed with the oil.

Ol. olivæ opt.	..	..	..	..	5viij.
Lithargyri	..	..	..	..	5ij.

M. Ft. unguent.

The directions are distinct—make an ointment, so an oleate

is intended. You will possibly carry out the prescriber's intentions if you use "Hebra's formula"—viz., emp. plumbi, ol. olivæ, aa. part. equalis. Misce sec. art.

55/30. Iodides and Bromides with Paraldehyde.—*Pot. Bicarb.* had the following mixture to prepare. It mixed quite clear until the paraldehyde (which was added last) was added, when it became a pale brown, like tr. ferri perchlor. diluted with water. Afterwards it became clear again. He would like to have the causes of these changes explained:—

Ammon. bromid.	..	..	..	..	gr. xv.
Paraldehyde	..	..	..	..	℥xv.
Sol. valerian (Bustick)	..	..	..	..	℥iss.
Hydrarg. perchlor. (insol.)	..	..	..	..	gr. ʒi
Potass. iodid.	..	..	..	..	.. v.
Aque ad	..	..	..	..	℥iss.

M.

The reaction is somewhat similar to that produced by spt. æther. nitrosi, due to the acidity of the aldehyde produced during storage upon the potass. iodide, forming free iodine, which, at the later stage, most likely forms ammonium iodide, and produces again a clear mixture.

55/24. A Cough-mixture.—*H. J. B.* sends us the following prescription, which, he thinks, may amuse some of our readers. It is certainly a complex one, but it is, so far as can be judged, a sensible mixture therapeutically, and ought to prove extremely useful in old chronic cases:—

Tr. chlorof. co.	..	..	..	..	℥ss.
.. belladonnæ	..	..	..	..	℥ss.
Ammon. carb.	..	..	..	..	gr. xv.
Sodæ bicarb.	..	..	..	..	℥ss.
Apomorph. hydrochlor.	..	..	..	..	gr. ʒ
Vin. ipecac.	..	..	..	..	℥i.
Tr. scillæ	..	..	..	..	℥ij.
Spt. æther. sulph.	..	..	..	..	℥iss.
Aque ad	..	..	..	..	℥vj.

M.

LEGAL QUERIES.

Immediate information on pharmaco-legal matters is available in "Pharmaceutical and Poison Laws of the United Kingdom," *Alpe's "Handy-book of Medicine-stamp Duty,"* and *THE CHEMISTS' AND DRUGGISTS' DIARY*, page 152 et seq.

53/39. *Amyli*.—The law does not require you to weigh seidlitz-powders, but it requires that when you sell them they shall be of the weight indicated by the Pharmacopœia.

56/11. *Pink Perle*.—We have repeatedly stated that we cannot make trade-mark searches for correspondents. We do not know whether your title, "Dr. Blank's Pink Perles for Pale People," would be an infringement of a trade-mark; but we think it extremely likely that a Court would grant an injunction against your use of such a title on the ground that it was likely to deceive customers.

55/6. *Hiera Piera*.—(1) See answer to "Poison," *C. & D.*, June 3, page 774. (2) This correspondent is a registered druggist in Ireland, and he asks: "If a man comes to my counter and says he is suffering from some complaint, and asks me to relieve him, am I within my rights to make up a mixture for him?" It seems to us that in so doing he would be liable to penalties under both the Apothecaries Act (Ireland), 1791, and also the Pharmacy Act, 1875—under the former for practising the art and mystery of an apothecary, and under the latter for compounding medical prescriptions; though in regard to the latter it is yet open to doubt what is a mixture such as you indicate is a medical prescription.

57/10. *Nemo*.—It is not a statutory offence to sell laudanum or paregoric in a cup; but if a chemist should so sell either, and a fatal accident were to follow, and he should

be censured, or even prosecuted for his negligence (as he might be), we hope he will not ask us for sympathy. Calomel is not a scheduled poison. Chemists who ask such a question as this should obtain our "Pharmacy and Poison Laws" (2s. 6d., post free 2s. 9d.).

MISCELLANEOUS INQUIRIES.

The Editor replies to queries of general interest, in the order in which they are received. Replies are inserted according to the space available. Postal answers cannot be supplied.

Back numbers, containing formulae, educational or other specific information can be obtained from the Publisher.

41/35. *I*.—To fix the Ammonia in a Manure containing kainits, superphosphate, and sulphate of ammonia, it is very likely that the addition of a small proportion of sulphate of iron, say about 3 per cent., would have the desired effect. Should also add about 2 per cent. sulphuric acid diluted with about four times its bulk of water. This ought also to prevent the irritating effect upon the eyes.

50/70. *W. S.*—To dry the ingredients for the *Health Saline* there is no method better than to arrange with a baker to put the ingredients into his oven, after he has finished his bakings for the day. The tartaric acid, cream of tartar and sugar may be dried together; the magnesia sulphate by itself, as it requires a much higher temperature; the soda bicarb. will give better effect if not dried, but added to the other ingredients. An "Enterprise" drug-mill will give satisfaction for grinding, as you can, by means of a screw, regulate the fineness of the powder. It must be thoroughly washed and dried immediately after using. You will find good mixing-machines advertised in this journal.

218/3. *Cattle Oils*.—Teething-powders containing potass. bromid. and hydrarg. c. cretâ:—Hydrarg. c. cretâ, sodæ bicarb., pot. bromidi, of each equal parts; give 3 grains for from six months to one year, 5 grains from one year to eighteen months, and from 8 grains to 10 grains up to three years.

50/53. *Vaseline*.—An Arsenical Dip for sheep may be made by using equal parts of white arsenic and washing soda with half the quantity of sulphur. The whole to be well boiled together before using. The customers to be warned as to the poisonous nature of each packet.

52/48. *A. D.*—Zinc Cream.—For painful sweaty feet:—

Oxide of zinc	..	..	..	..	1 oz.
Starch powder	..	..	..	..	½ "
Salicylic acid	..	..	..	..	1 drachm
Glycerine	..	..	..	..	½ oz.
Saturated solution of boric acid in rose-water	..	..	..	..	4 "

Mix.

50/21. *J. P. N.*—For Opaque-etching upon glass, see February 8, 1890, page 202. There a correspondent gives formula for fluid, and detailed directions as to use.

51/26. *J. M. S.*—The Basis for Carbolic-powder, of various strengths, consists sometimes of a mixture of freshly-slaked lime (dry) and ordinary whiting, coloured with rose-pink. Kieselguhr (infusorial earth) is used for the better sorts, and is much more absorbent. It may be coloured in the same way.

56/8. *Grossularia*.—We cannot reprint formulæ for new subscribers. We refer you to the number containing the formula, and you can get this from the office for 4d. If the information is not worth that sum to you, you cannot want it very badly.

52/44. *P. S.* asks us to tell him a remedy for continued swelling of the gums. He thinks it is caused by small abscesses. The details given are too vague. If, however, the gums are merely swollen, and not bleeding or spongy or much inflamed, the application, twice daily, of equal parts of tincture of aconite and tincture of iodine might be found serviceable. The application must be made with great care as none of it must be swallowed.

50/63. *J. B. Leslie* asks if the prescription of half a tablespoonful of bicarbonate of soda in the article on indigestion and stomach mixtures (May 20) was not a misprint. The author replies as follows:—"No; there is no mistake or misprint, and we do not consider half a tablespoonful of bicarbonate of soda too much to give in a case of heartburn. We should add, however, that the tablespoons we have come across do not hold '3½ oz.' They hold, when filled in the ordinary way, about 1 oz., and it was half of this quantity that we recommended. The B.P. dose, which, by-the-bye, you do not quote correctly, is far too small for the present purpose. This will be evident if you reflect that the contents of the stomach—say, about a couple of pints of strongly acid fermenting matter—have to be neutralised. You can easily try the experiment for yourself, using fermenting milk as a convenient medium, and observing the effect produced by the addition of successive quantities of bicarbonate of soda."

56/10. *C. E. Pickering*.—Thanks; but the item is very ancient.

54/9. *Philomel*.—**Acid Sulphate of Potash** is sometimes used as a substitute for tartaric acid in cheap **Baking-powders**, and is what you have in mind.

52/62. *Milk of Cocaine*.—**Green Archil** we do not know; is it a mixture of litmus and turmeric or of indigo and fustic? The easiest method to stain leather is to use one of the aniline dyes. **Milk of Cocaine** for external use. Four per cent. of the alkaloid dissolved in almond oil, and emulsified by adding an equal quantity of saturated solution of borax in water to the oil solution.

53/7. *Accrington*.—To **Stain Beeswax** a bright transparent colour, melt the wax and add either annatto or turmeric. The addition of hard paraffin or spermaceti will harden it.

49/19. *Phosphate*.—To **Stain Aluminium** a dull colour use either of the following:—Sulphate of copper, 1 oz.; hyposulphite of soda, 1 oz.; hydrochloric acid, 2 drachms; water, 1 pint; or, protochloride of tin, 1 drachm; sulphocyanide of potash, 1 drachm; water, 1 pint.

52/22. *Phosphate*.—**Balsam of Sulphur** is made by heating together sulphur, sublimat, with either olive or linseed oil—proportion about 1 to 10—for a considerable time. It is also prepared with Barbadoes tar or turpentine, when it imitates "Dutch drops." It is sometimes flavoured with oil of anise.

54/17. *J. W. B.*—We are unable to give you any information about Dr. Patscheff's cure for cancer. If, however, that "cure" consists mainly of baths of sulphur vapour, we fear it is not likely to result in any benefit—to the patients, at all events. No paper on the subject has, so far, been read before the French Academy of Medicine.

52/3. *Photo* asks: "Can anyone suggest how an inexpensive photographic dark-room may be constructed? Space limited." Full instructions for making a simple dark-room will be found in No. 451 *Amateur Photographer*, or one may be bought ready-made from some of the apparatus dealers for 2 guineas.

51/41. *K. Br.*—The sample of **Cement** you send as **Suitable for Binding Together Leather Belts** consists of fine French glue coloured with aniline magenta.

55/69. *Eye-wash* wishes to know what an **Eye-lash Tonic** sent out by Madame — of London, consists of. It has the appearance of almond oil. Most preparations of this sort seem to consist of some preparation of mercury. Is it a solution of the oleate in almond oil?

56/61. *Picrotoxinum*.—A good formula, such as you require, according to Martindale, for **Asthma** is:—

Nitrate of potash	..	..	..	..	2 oz.
Boiling water	..	..	..	..	2 oz.

Dissolve and add to—

Lobelia (mixture of seeds and leaves in powder)	..	..	..	..	2 oz.
Stramonium leaves	..	..	..	..	2 oz.
Black tea	..	..	..	..	2 oz.

Mix and dry.

56/51. *T. B.*—To **Soften the Water** of your bath and have it at the same time cool and invigorating you cannot do better than add a handful or two of sea-salt and a small piece of ordinary washing-soda.

53/12. *C. B. G.*—To **Free a Garden from Earwigs** you cannot do better than water it with a strong infusion of white hellebore, and repeat at the end of the week should the present hot dry weather continue; or place a flower-pot on end of a piece of wood a little higher than the plants, the flower-pots to have a layer of dry moss or wool inside. Collect each night at dusk, and shake out the earwigs into a pail of boiling water. The formula for **Piperazidine** is $C_2H_5NH_2$, the hydrochloride is generally used hypodermically in 2-per cent. solution; by the mouth, in doses of from 5 to 25 grains. The hydrochloride from experiments recently made is considered a powerful solvent of uric acid.

56/9. *S. M.* supplied to a customer whose pigeons were attacked by a mild form of roup some pills from the following formula:—

P. cubebæ	..	..	..	..	gr. j.
Sod. salicyl.	..	..	..	..	" j.
Pulv. capsici	..	..	..	..	" ½
Ol. eucalypt.	..	..	..	..	℥ ½
Ext. gent.	..	..	..	..	q.s.

Ft. pil. j.

and directed them to be given "one pill twice a day." Certain of the pigeons have died since, and the question is whether the medicine is in any degree responsible. It is possible. Comparing the Pharmacopœia dose of cubebs for a man and the relative weight of men and pigeons the dose is excessive. Roup is of the nature of snuffles in rabbits, and we find that boracic acid is a specific. Try a 5-grain-to-the-oz. lotion for nostrils and mouth, and ½-grain doses internally.

Next Week.

Meetings, &c., to be held, and business to be transacted thereat. Suitable notices will be inserted in this section if received by the Editor on or before Wednesday.

WESTERN CHEMISTS' ASSOCIATION (OF LONDON).—The next meeting will be held at the Westbourne Restaurant, 1 Craven Road, W., on Wednesday, June 21, at 9 P.M. The discussion will be on "The Pharmacopœia as a Commercial Standard."

WEDNESDAY, June 21, at 8 P.M.—Dr. Nias on "The Development of the Continental form of Microscope Foot"; Mr. C. Rousselet on "New and Little-known Rotifers."

20 HIGHEST AWARDS. 20

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20 HIGHEST AWARDS :

LONDON, 1851; LONDON, 1862; PARIS, 1867;
SANTIAGO, 1875; PHILADELPHIA, 1876; PARIS, 1878;
SYDNEY, 1879; BRIGHTON, 1881; BOSTON, 1883;
ADELAIDE, 1887; MELBOURNE, 1888; PARIS, 1889;
EDINBURGH, 1890; ROYAL MILITARY, LONDON, 1890;
&c., &c., &c., &c., &c.

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Gross	Gross	Gross		Gross	Gross	Gross		Gross	Gross	Gross	
s. d.	s. d.	s. d.		s. d.	s. d.	s. d.		s. d.	s. d.	s. d.	
OFFICIAL FORMULÆ.											
1 Pil. Aloes Barb. ...	0 7½	0 6½	0 5½	203. gr. ½ ...	0 6½	0 5½	0 4½	THE "LITTLE" PILL.			
3 " Aloes et Ferri ...	0 7½	0 6½	0 5½	204. gr. 1 ...	0 7½	0 6½	0 5½	"LITTLE" ANTIBILIOUS.			
6 " Asafœtide Co. ...	0 9	0 8	0 7	205. gr. 1½ ...	0 11	0 10	0 9	400 Jalapin, gr. 1-16th ...	0 7	0 6	0 5
8 " Colocynth Co. ...	0 11	0 10	0 9	206. gr. 1½ ...	1 3	1 2	1 1	Aloin, gr. 1-8th ...			
9 " Colocynth et Hyos. ...	1 0	0 11	0 10					Lepandrin, gr. 1-16th ...			
11 " Ferri Carb. ...	0 7	0 6	0 5	APERIENT PILLS.				"odophyllin, gr. 1-8th ...			
13 " Hydraro. ...	0 7½	0 6½	0 5½	45 Ext. Aloes Aquosum gr. xx.				Pulv. Cambog. gr. 1-32nd ...			
17 " Rhei Co. gr. iv. ...	0 7½	0 6½	0 5½	Pulv. Cambog. gr. iv. ...	0 9	0 8	0 7	Ext. Hyoscy. gr. 1-8th ...			
ANTIBILIOUS.				" Jalap. gr. viij. ...				Capsic. gr. 1-64th ...			
129 Pil. Hydrarg. gr. i. ...	1 0	0 11	0 10	" Colocynth. gr. vi. ...				"LITTLE" APERIENT.			
Ext. Coloc. Co. gr. ij. ...				" Hyd. Subchlor. gr. iv. ...				68 Aloin, gr. 1-10th ...			
" Hyoscy. gr. i. ...				" Sapo. Hyspan. gr. iv. ...				Podophyllin, gr. 1-5th ...			
130 Pil. Hydrarg. gr. i. ...	0 8	0 7	0 6	Gingerin, gr. ij. ...				Ext. Hyoscy. gr. 1-10th ...	0 7	0 6	0 5
" Rhei Co. gr. iv. ...				Each Pill contains Calomel, ½ gr.				Ext. Nuc Vom. ...			
TONIC PILLS.				46 As 45, with 1 gr. Calomel ...	0 9	0 8	0 7	Capsic. aa. gr. 1-20th ...			
109 Pil. Ferri (Bland) gr. iv. & v.	0 6½	0 5½	0 4½	47 As 45, sine Calomel ...	0 9	0 8	0 7	"LITTLE" COUGH.			
An improved form of unequalled				533 Aloes Barb., gr. iss. ...				412 Morph. Hydrochlor., gr.			
excellence.				Jalap. gr. i. ...	0 7	0 6	0 5	1-36th ...			
212 Quinin. Valer. ...	1 7	1 6	1 5	Coloc. gr. i. ...				Pulv. Scilla ...	0 7	0 6	0 5
Zinci Valer. ...				Cambog. gr. ½ ...				Pulv. Icacac. aa. gr. 1-12th ...			
Ferri Valer. aa. gr. i. ...				Saponis, gr. ss. ...				Bals. Tolu, gr. 1-4th ...			
				Ol. Carui, gtt ½ ...				"LITTLE" LIVER.			
				Do. c. Calomel, gr. ½ ...	0 7	0 6	0 5	410 Podophyllin, gr. 1-4th ...			
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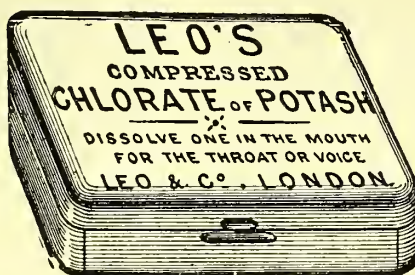
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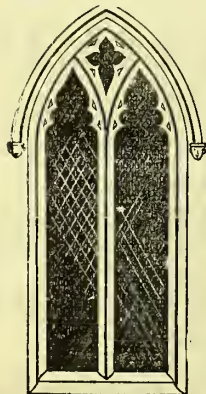
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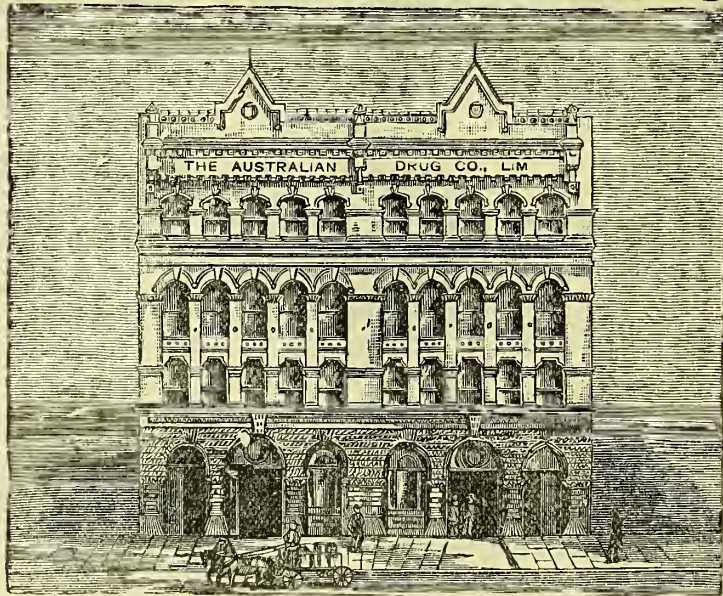
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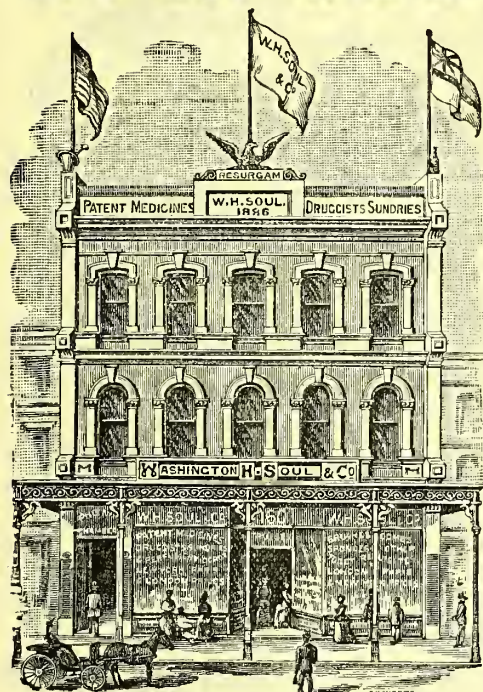
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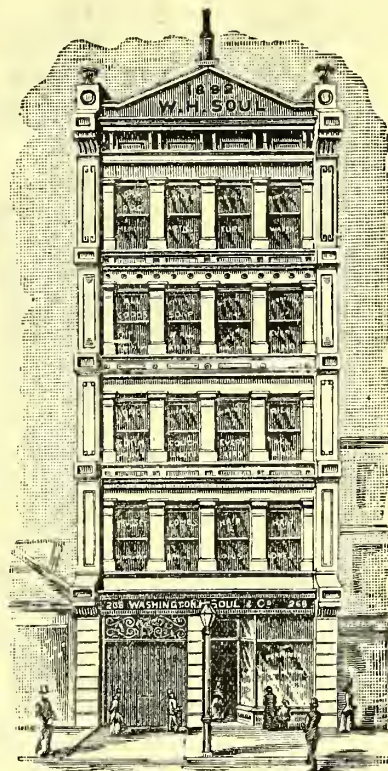
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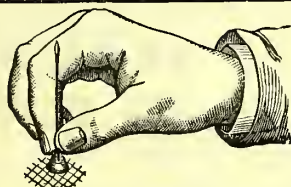
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PEAKE, ALLEN & CO.

CHEMISTS, DRUGGISTS,
AND
GENERAL MERCHANTS,
LUCKNOW, OUDH, INDIA,

Possess exceptional facilities for the
introduction of NEW SPECIALITIES,
Patent Medicines, Druggists' Sundries,
Perfumery, &c.

Trade Mark.



Registered.

THE
ASSOCIATION for the SUPPLY of PURE VACCINE LYMPH,
12X PALL MALL EAST, LONDON, S.W.

SOLE AGENTS FOR
DR. WARLOMONT'S CALF VACCINE

Tubes, 2s. each; Half-tubes, 1s. each. Formade in vials, 5s.
HUMAN VACCINE, from healthy children only, microscopically examined and
source quoted. Tubes two-thirds full, 1s. 8d. each; Tubes one-third full, 1s. each;
Tubes two-thirds full (same as those mentioned above, but without source), in
quantities for export, 15 per 100 Tubes. Pin-points, uncharged, 1s. per dozen.
Vaccine Ejectors, 1s. 3d. each, including postage. F.O.O.'s (including postage,
and crossed London and Westminster Bank) with orders, payable to
EDWARD DARKE, Secretary.

Office Hours, 10 to 4. Saturdays, 10 to 2.

UNITED STATES.

B. KEITH & CO.,

MANUFACTURERS OF

**PURE CONCENTRATED
MEDICINES,
CONCENTRATED TINCTURES, ETC.**

We make a full line of RESINOIDS, such
a PODOPHYLLIN, LEPTANDRIN, EUONY-
MIN, IRISIN, HYDRASTIN, &c., ALL PURE.

So called Concentrations are in the market, called by the same name as
manufactures, that are made by triturating extracts, &c., with sugar
of milk, powered root, &c.

WHAT ARE CONCENTRATED TINCTURES?

They are not made from the crude material, but by dissolving the
active principles in Alcohol in definite proportions, and
invariably represent a uniform amount of therapeutic power.

Send for printed matter on CON. TINCT. AYENA SATIVA in the
Morphia or Opium Habit, and certificates from different members of the
Medical Profession, citing cases under their charge treated by it; also
REVISED AND ENLARGED MANUAL; also Price Lists, to

B. KEITH & CO.,
75 WILLIAM STREET, NEW YORK, U.S.



ELASTIC SURGICAL STOCKINGS, APPLIANCES, &C.



Patent Pile. Protected. 14,618.
The Pile lying over the India-
rubber Cords, protecting
them and forming a smooth
soft surface to the limb.

LATEST NOVELTY. NEW SUSPENSORY BANDAGE, THE "OCTOPUS."



Packed any way
in
Envelopes, Boxes,
&c.

The Band of this SUSPENSORY being
cut a peculiar shape, so as to fit
parallel with the External Oblique
Muscles, and Buckling on each
side of the Purse, clings to the
Body as firmly as an "OCTOPUS."
It can also be adapted by the
buckles to fit a wide range of sizes.

Registered, 185,228.

No one will wear
the other shape
after trying one
of this kind.

Fitted with Galvanic Disos, it is a
most powerful INVIGORATOR.

It is specially adapted for Riding,
Hunting, Lawn Tennis and Foot-
ball Players, Cyclists, Pedes-
trians, and all kinds of Athletic
Sports.

Handbook of my Manufactures will be forwarded to any Surgical Instrument Maker or Chemist free.

MAGNETIC BELTS AND APPLIANCES.

Plastic Surgical Stockings, Knee Caps, &c.
Patent Spiral Seamless Elastic Stockings, &c.
Patent Pile Surgical Elastic Stockings.
Elastic Supports for Lawn Tennis, Cricket,
Lacrosse, and other Athletic Sports.

Bath and Rubbing Gloves.
Bathing Caps and Belts.
Trusses of every description.
Fero-plastic Jackets.
Chest Expanding Braces.

Bandages—Indiarubber, Elastic, Lint, Cotton
Savres', &c.
Horse Ear Caps and Veterinary Appliances.
Suspensory Bandages.
Ladies' and Gentlemen's Belts.

Hot Water Bottles and Covers, Respirators, Inhalers, Bronchitis Kettles, Throat Sprays, Waterproof Coats, Cloaks and Driving
Aprons, Footballs, Shin Guards, and Athletic Appliances, Druggists' Sundries, Invalid and Nursery Appliances, &c.

MANUFACTURER AND PATENTEE:—

J. H. HAYWOOD, *Surgical, Electrical, Athletic, and
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Telegrams—
"SOLPORT, LONDON."

66, Shaftesbury Street,
New North Road, **LONDON, N.**

Manufacturers for Wholesale and Export of

BATH & FLESH GLOVES, STRAPS, PADS, &C.

CHEST PROTECTORS, CORN and BUNION PLASTERS, &c.

LOOFAHS & LOOFAH GOODS.

Buyers and Shippers should write for our full Illustrated Price List.

ESCHMANN BROS. & WALSH,

Inventors and Manufacturers of the

SOFT SILK FLEXIBLE CATHETER GUARANTEED WITH WOVEN EYES.

To be had of all Surgical
Instrument Makers
and Wholesale Houses.



To be had of all Surgical
Instrument Makers
and Wholesale Houses.

WATERPROOF

HOSPITAL
SHEETINGS.

PINK
JACONET.



FABRICS, ETC.

BANDAGE
CLOTHS.

WATER-
PROOF
LINT.

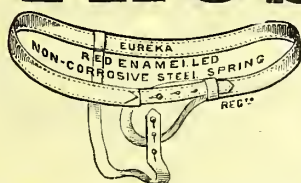
THE VICTORIA RUBBER CO.,

London Office and Warehouse—74 and 75 FORE STREET, E.C.

Victoria Indiarubber Mills, EDINBURGH.

Samples, &c., on application.

TRUSSES.



BEST LONDON MAKE.

From all Wholesale Houses or Patentee, but ask for the "EUREKA."

PRICES—

Single Inguinal, quality 1, 11/6;
2, 12/6; 3, 15/6 per doz.
Double Inguinal, quality 1, 18/6;
2, 21/-; 3, 24/- per doz.

Prices of Scrotal, Femoral, Moe Main, and on the S. & O. Truss Principle forwarded by return of Post.

Furnaces always at light. Every spring guaranteed.

Bona-fide maker of BELTS, TRUSSES, SUSPENSORY BANDAGES, ELECTRIC BELTS AND MAGNETIC APPLIANCES, ELASTIC HOSIERY, ETC.

VINCENT WOOD, 3 St. Andrew St., Holborn Circus, LONDON, E.C.
(ADJOINING CHURCH) ESTABLISHED 1840

The Original

Arnicated

Corn and

Bunion

Plasters.

Please see that YOUNG'S goods are supplied, as there are many worthless imitations.

HENRY YOUNG, Manufacturer, LONDON.

ESTABLISHED

A.D.

1840.

SUMMER LINES. BOUND TO SELL.



Fig. X.

SMELLING SALT BOTTLES.

Per doz.
Fig. X., with clear-cut Polished Stoppers .. 12/-
Ditto, Super .. 13/-
Ditto, with very elaborate cutting 15/-

Above are suitable for high-class Pharmacies.

Per doz.
Fig. Y., Flask shape .. 3/9
Plain .. 2/6
Watch shape, Horseshoe .. 3/6
China, Watch shape .. 4/-
China, Globular 2/-



Fig. Y.

FLESH GLOVES.

3d. Turco .. Per doz. Pairs 2/- | 6d. Turco, bound .. Per doz. Pairs 3/-
6d. " .. " " 2/8 | 1s. " " " " " " 4/6

For complete List see Catalogue.

INSECT POWDER TINS.

1d., 2/3; 3d., 5/6; 6d., 7/9; 1s., 9/- per gross.

SELTZOGENES

3 pint 8/- each | 5 pint 11/6 each

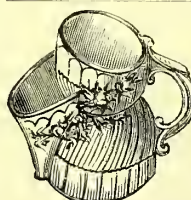


Fig. Z.

SHAVING MUGS.

Per doz.
White and Gold } New shape, Fig. Z. .. { 6/-
Floral 7/-
1s. Globular shape 7/6
6d. Mug shape 4/-

Bathing Caps, Sponges, Sponge Bags, Flesh Straps, Loofahs, &c., &c., kept in stock.

F. NEWBERRY & SONS,

Druggists' Sundriesmen,

1 & 3 KING EDWARD ST., LONDON, E.C.

Chemists are invited to apply to the CHEMISTS' ASSOCIATION (LIM.) for quotations for the following seasonable lines:

WASHING GLOVES, SELTZOGENES, SPONGE BAGS & BATHING CAPS

(SOME SPECIALLY CHEAP),

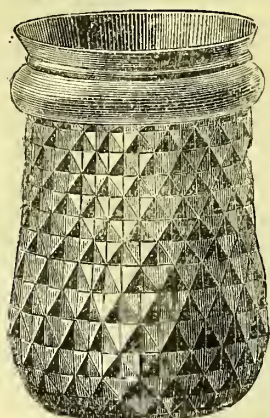
PERFUMES, PERFUME ODORATORS,

SALINE, "MAG. CIT.,"

EXT. GLYCERINE AND CUCUMBER, &c, &c.

THE CHEMISTS' ASSOCIATION, LIM.

CURTAIN ROAD, LONDON, E.C.



PROFITABLE LINE FOR CHEMISTS!

Telegraphic Address—"VIALS LONDON."

ROYAL
JULY 6,



WEDDING,
1893.

HEARN'S PATENT PRISMATIC ILLUMINATION LAMPS

ARE THE CHEAPEST, PRETTIEST, & MOST EFFECTIVE. SPECIAL CASES, each containing 5 Gross of these Lamps, Wired ready for hanging, of assorted Colours, including Dark Green, Amber, Venetian, White, Ruby Painted, &c.,

PRICE £5:5:0 NETT CASH.

Packages Free—delivered free to Rail or Wharf, London.

N.B.—To ensure delivery, Orders must be placed early, as the demand for these Lamps on such occasions is enormous, and they command a ready sale wherever introduced. All Orders must be accompanied by a Cash Remittance.

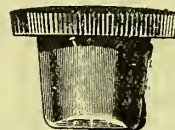
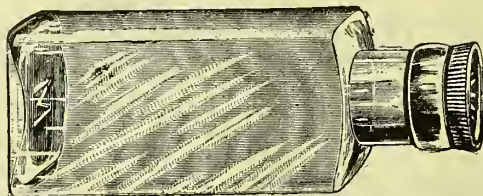
PATENT ILLUMINATION LIGHTS for use in the above Lamps may be had in Cases.

PRICES ON APPLICATION.

E. A. HEARN & CO., Eclipse Glass Works, LONDON. N.E.
Lower Clapton,

IMPROVED SALINE BOTTLE.

Made of the best quality only—8-oz. and 10-oz. sizes. Azure Blue Tinted, with Patent Corrugated Glass Stoppers, Round Corners, Solid Cork Rims.



Glass Stopper
with Corrugated Side.

TO BE HAD OF ALL WHOLESALE CHEMISTS AND WAREHOUSEMEN.

N.B.—The Best Saline Bottle yet offered to the Trade.

C. MELIN, PANTIN GLASS WORKS, LONDON, E.C.
37 Crutched Friars,

R. H. BARRETT'S PATENT CAPPED BOTTLE.

THE ONLY REALLY PERFECT BOTTLE FOR VASELINE, POMADE,
DRY POWDERS, ETC.

NOTICE REDUCTION IN PRICES.

PRICES (in 5-gross Lots):—Fitted with STRONG METAL CAPS, CORK-LINED, in various colours, very attractive in appearance—1 oz., 10/6; 1½ oz., 11/-; 2 oz., 11/6; 3 oz., 13/6; 4 oz., 15/6 per gross.

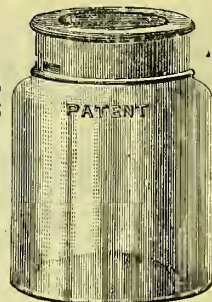
CHEMISTS' AND PERFUMERS' BOTTLES IN GREAT VARIETY, PLAIN OR STOPPERED.

R. H. BARRETT,

FLINT GLASS BOTTLE WORKS,
THE OVAL, CAMBRIDGE HEATH, LONDON, E.

Telegraphic Address—"FOREFRONT LONDON."

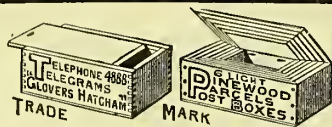
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"A CAPITAL IDEA"!!

Said friend JONES, the GO-AHEAD CHEMIST. "I'VE DOUBLED MY TRADE last year since I commenced packing all my customers' prescriptions in Glover's small wood boxes."

And JONES CHUCKLED!!



"CAPITAL, INDEED"!!!

Said the Colonial Shipper. "Those light nested boxes, shipped in cases (each containing 1-gross nests), are just what is wanted, and I am getting repeat orders doubled. We are all indebted to the Makers,

Messrs. C. H. GLOVER & CO., of Hatcham Sawmills, Ormside St., Old Kent Road, LONDON. S.E."!!

PRICE 14/-
per doz. nests of 6
Boxes, planed and hinged,
from 5" x 2½" x 1½" to
9½" x 6½" x 4½". Nests of 6 for Bottles,
4 oz. to 16 oz., at same price. Single nest, 1/6.
Special Terms for Large Quantities to Shippers.

GLASS BOTTLES

GOOD AND CHEAP.

From Stock
in London or
direct from
the works.

THE NEW SHAPE FLATS,
With rounded edges, or the ordinary kind, plain or graduated.
3 and 4 ounce 8/- per gross.
6 and 8 9/-

WHITE MOULDED PHIALS.
1 oz. 1 oz. 1½ oz. 2 oz.
3/6 .. 3/9 .. 4/6 .. 5/3 per gross.

PANEL BOTTLES.
2 oz. 4 oz. 6 oz. 8 oz.
7/- .. 8/- .. 9/- .. 9/- per gross.

SPECIAL NOTICE.—Six gross and upwards of assorted sizes sent Carriage Free to any part of England. Smaller quantities not carriage paid. Sample Bottle sent free on application.

I. ISAACS & CO., GLASS BOTTLE MANUFACTURERS

25 Francis St., Tottenham Court Road, LONDON, W.C.

Established 50 Years. Bankers—London and Westminster Bank.

GLASS BOTTLES



FLAT—with Round Edges.

DISPENSING BOTTLES.

BEST QUALITY,

SUITABLE FOR A HIGH-CLASS TRADE.

GREEN FLINT.

Flats (ordinary and round edges), Ovals, Direct Squares, Rounds and Octagons (plain, graduated, and lettered),

3	4	6	8	12	16 oz.
10/-	10/-	11/6	11/6	16/9	22/6 per gross.

WHITE VIALS (Plain and Graduated),

$\frac{1}{2}$	1	$1\frac{1}{2}$	2	3	4 oz.
$\frac{1}{2}$ /6	4/9	6/-	6/9	8/9	10/- per gross.

SAMPLES ON APPLICATION.

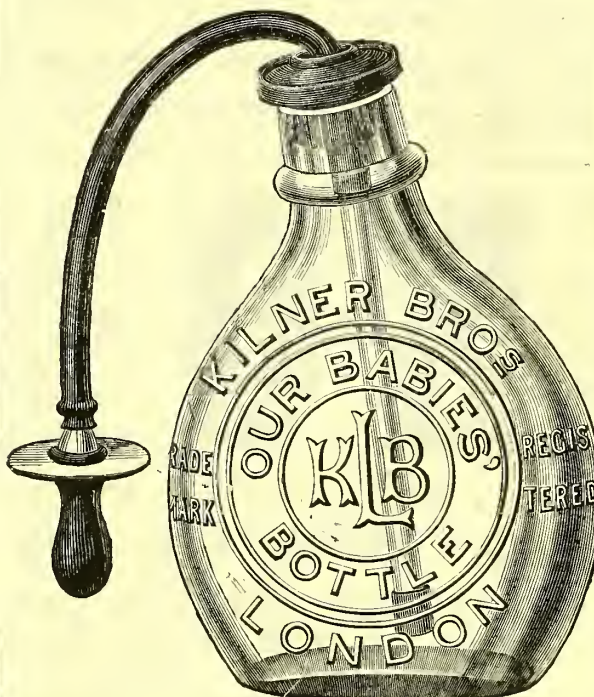
FEEDING BOTTLES.

No.	$6\frac{1}{2}$ -inch Rubber Tube.	Small lets. 2-grs. let.	
1.—Green Bottles, Boxwood Top Corks,			
White Fittings	25/6	24/6	
3.—Ditto, Black Fittings	28/6	27/6	
White glass 2/6 per gross extra.			
China tops 1/6 per gross extra.			
64.—Green Bottles, Glass Screw Stoppers,			
White Fittings	31/-	30/-	
66.—Ditto, Black Fittings	34/-	33/-	
White Glass 3/- per gross extra.			

per gross.

These prices include 1 doz. partitioned Wood Boxer. If Bottles are loose 2/- per gross less.

Supplied each Bottle in Cardboard Box at 4/6 per gross extra.



MINERAL WATER BOTTLES AND BOXES OF ALL KINDS.

Illustrated Catalogue containing full particulars sent on application to

KILNER BROTHERS,

No. 3 GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON.

AIR-TIGHT TINS & CANISTERS

FOR CHEMISTS & DRUGGISTS. ENAMELLED IN ALL COLORS

ARTISTICALLY ORNAMENTED

WITH VARIOUS DESIGNS IN GOLD

AND LABELLED TO ORDER

These Enamelled Canisters are a great improvement upon the old-fashioned Specie Jars, for, besides being unbreakable, they have a very handsome appearance when placed on Chemists' side-fittings. Made in all sizes.

JOHN A. GILBERT & CO., 2 & 4 Mount Pleasant, GRAY'S INN RD., LONDON, W.C.
Elm Street,

THE FINEST BOTTLES IN THE MARKET, WITH WORLD-WIDE REPUTATION, ARE

SPECIALITIES.

Best Dispensing Bottles in all Shapes, including Round-cornered, and any Fancy or other Shapes for Proprietary Articles.

BRANDED  THUS.



REGISTERED TRADE MARK.

SPECIALITIES.

Hand-made Rounds, Opal, Flint, and Turquoise Boxes.

Every attention given to any coloured and special-shaped Bottles.

White Flint, Blue Tint, Green Tint, Rich Dark and Pale Amber, Jet Black, Actinic Green, and all shades of Blue.

WHOLESALE ONLY.

BOXES

ESTABLISHED 1839

ROUND, OVAL, SQUARE, or FOLDING, for the
DRUG, DRYSALTRY, AND CONFECTIONERY TRADES.

LABELS, WHEN PRINTED TO OUR INSTRUCTIONS, WE PUT ON PILL
AND OTHER BOXES FREE OF CHARGE.

BOXES AND CASES FOR

Baking Powder, Black Lead, Bottles, Camphor Ball, Capsules, Castor Oil, Cough Lozenges, Dispensing Powder, Eye Ointment, Fancy Boxes, Fuller's Earth, Folding Boxes, Glass Top Outers, Homœopathic Bottles, Insect Powders, Ink Cases, Jewellery, Lozenge, Lip Salve, Magnesia, Metal Paste, Marking Ink, Nipple Shields, Night Lights, Parcel Post, Pastilles, Pills, Potash Tablets, Plasters, Salt Lemon, Seidlitz Powder, Starch Gloss, Soaps, Soda Powder, Syringes, Tapers, Tooth Powder, Violet Powder, &c.

ROBINSON & SONS, WHEATBRIDGE MILL & CHESTERFIELD.
HOLMBROOK WORKS,

And 55 FANN STREET, ALDERSGATE STREET, LONDON.



POST ORDERS.

All orders received by Post, Telegraph, or Telephone are despatched the same day, with the exception of Special Lines which have to be made.

Drugs and Chemicals are not kept in stock, but are procured from any of the Wholesale Houses in Liverpool, and charged at their List Prices.

POSTAL ADDRESS—

AYRTON & SAUNDERS, LIVERPOOL.

TELEPHONE NO. 423.

TELEGRAPHIC ADDRESS—"SUNDRIES LIVERPOOL."

ROYAL SHOW, CHESTER, STAND 141.



ESTABLISHED 1842



ESTABLISHED 1842.

HAYWARD'S "YELLOW" PASTE

IS A DEPARTURE, BUT AN UNDOUBTED SUCCESS.

HAYWARD'S YELLOW PASTE DIP is the most concentrated form of Sulphur-dressing, mixes with cold water, and is a great improvement on the old-fashioned sulphur dips. While keeping off the Maggot Fly, and destroying all Parasite Life infesting the animal, it does not make the wool harsh and dry, and when once a Sheep Owner has tried the "Paste" he prefers it to all other forms of sulphur Dips. A 1/- tin is sufficient for 16-gallon Bath for 20 to 25 sheep, and this price need not be reduced; the terms we give allow a fair margin of profit. Our non-poisonous qualities are—Hayward's Liquid Dip and Hayward's "Glycerine" Dip, also Fly Powder in Chemist's own name. Send for prices and particulars.

only Address:—TOMLINSON & HAYWARD, Mint Street Chemical Works, LINCOLN.

HAMBO SPECKLED

TRADE MARK
REGISTERED.

All Orders by Post receive immediate attention.

LEECHES!

Warranted Healthy.
Wholesale and for Exportation
Direct from Marshes.

FITCH & NOTTINGHAM,
LEECH BREEDERS,
4 CANONBURY SQUARE, LONDON, W.

HOLLOWAY'S PILLS & OINTMENT

Have the Largest Sale of any Medicine in the World.

MANUFACTURED ONLY AT

PROFESSOR HOLLOWAY'S ESTABLISHMENT,
78 New Oxford St. (late 533 Oxford St.), London,

And sold at 1s. 1d., 2s. 9d., 4s. 6d., 11s., 22s., and 33s. each Box or Pot.
Chemists and Druggists selling "Holloway's Pills and Ointment" can, on application to the above address, or to the Wholesale House with whom they deal, be supplied free of charge with Handbills and Posters with their name and address printed at foot.

Wholesale Terms see List of "Proprietary Articles" in most Price Currents.

DAY, SON & HEWITT'S NEVER FAILING HORSE, CATTLE & SHEEP MEDICINES.

THE CHEMICAL EXTRACT.

For Kicks, Cuts, Bruises, Sore Withers, Swellings Strains of Ligaments and Tendons, Saddle Galls, &c. It rapidly relieves Straining and Pain after Calving and Lambing, and is the remedy for Swollen Udders and Sore Teats.

Price 2s. 6d., 3s. 6d., and 7s.
per Bottle.

THE CASEODYNE,

Used as Ladanum for parturition in Mares, Cows, and Ewes, when there is great pain exhibited with feverish symptoms. Highly beneficial for Inflammatory Colic or Enteritis, and for severe forms of Diarrhoea.

Price 3s. 6d. per Large Bottle.



For Fret, Colic, or Gripes in Horses, Moven or Blown Sheep, and General Debility in Stock; of exceptional value for Colds, Chills, Scurvy, Diarrhoea, and weakly Lambs and Calves.

Price 1s. 9d. per Bottle, 20s. per doz.

THE RED DRENCH.

For Colds, Indigestion, Costiveness, Yellow Surfeits, Loss of Cud, Pleurisy, Hide-bound, Red Water, &c. Admirably adapted for cleansing and checking feverish symptoms in Cows and Ewes after a bad time of Calving or Lambing.

Price: for Cows, 13s. per doz.; for Ewes, 3s. 6d. per doz.

THE BRONCHOLINE.

For Husk or Hoose in Heifers, Calves, Sheep, and Lambs, also Tape-worms in Tega. No parasite can exist in the windpipe or passages after the blood has been impregnated with this worm-destroying medicine.

Price 2s. 6d. per Bottle.

THE ORIGINAL STOCK-BREEDER'S MEDICINE CHESTS,

For Horses, Cattle, and Sheep. Prices, £1 8s. 9d. and £2 16s. 6d.

THE ORIGINAL HORSE-KEEPER'S MEDICINE CHESTS,

For all ailments in Horses. Prices, £1 10s. and £2 17s. 6d.

ROYAL ANIMAL MEDICINE MANUFACTORY, 22 DORSET ST., LONDON, W.

Liberal Discount to Foreign Buyers.

Trade Terms and full particulars on application.
Attractive Show-cards and Handbills sent with each order.

ROYAL SHOW, CHESTER.

STAND 127, SHOW YARD.

SPRATT'S PATENT

Please spare a few moments when passing
STAND 127.

HORSE, CATTLE,
AND SHEEP
MEDICINES.

Established 1840.
**Day & Sons,
Crewe.**
ANIMAL MEDICINE SPECIALISTS.

HORSE, CATTLE,
AND SHEEP
MEDICINES.

THE "PURIFIED" DRIFFIELD OILS,

Commonly called "Day's Oils,"
"Day's Black Oils."

For Wounds of all kinds in all Animals.
For Saddle & Stake Wounds & Cracked Heels.
For Sore Teats and Swollen Udders in Cows.
For Anointing in bad Lambing and Calving.

Price 2s. 6d. and 6s. per Bottle.

SHAKE THE BOTTLE WELL BEFORE USING
DAY & SONS' BLACK DRINK
DIRECTIONS FOR USE



(FIT FOR ANYTHING)

Cures Colic and Colds in Horses and Cattle.
Debility, Chills, Fatigue, and Diarrhea.
1/8 per bottle, or 19/ per dozen.

DAY & SONS, CREWE.

BEWARE OF COPYISTS.

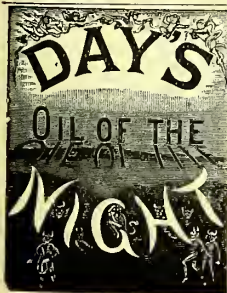
THE RED DRINK

OR COW DRENCH.

Cures Fever and Costiveness in Cattle.
Cleanses and Cools the Blood and System.
For Red Water, Indigestion, and Yellows.
Cures Bad Cleansing and Prevents Milk Fever.

Price 12s. per dozen Packets.

The "EWE DRENCH" acts as above for
Sheep. 3s. 6d. per doz.



What's good for
BODILY PAIN?

DAY'S OIL OF THE NIGHT

The People's Embrocative Balm for Sprains, Muscular Weakness, Rheumatism, Lumbago, Cramp, Sore Throat from Cold, Sciatica, &c., and all Aches, Pains, and Soreness. Send for "Day's Oil of the Night" terms, framed to prevent CUTTING.

Chemists can have a Single Bottle direct. Price 1/1½ and 2/9 per Bottle.

DAY & SONS, CREWE, CHESHIRE.

What's good for
RHEUMATISM

DAY'S OIL OF THE NIGHT



I WILL pay £5 to the first person whether Chemist, Assistant, or other of the Public, who will afford me such information (which I engage to treat as absolutely confidential) as shall lead to the conviction of anyone who improperly substitutes other Powder for mine. I call attention to the case below.

As a matter of fact, I took this course last year, and in the end the reward and heavy costs came out of the substituter's pocket; and I have every reason to believe that the course I adopted was highly satisfactory to the neighbouring Chemists, as well as to the Public and myself.

THOMAS KEATING,
12, BRIDE LANE, LONDON.

A "STORES" CAUGHT!

MR. JUSTICE STIRLING.—October 30, 1891.

KEATING v. KIBBLE.

THE Defendants are Proprietors of large Stores at Deptford, and when asked for "Keating's Powder," sold by their shopmen an article not made by me. The Defendants denied that this was done with their knowledge, and this may be conceded, but it cost them over £40, although in this instance I pressed my Solicitors to be as considerate to them as possible. The Court ordered the Defendants to pay the whole costs of the action, and issued an injunction restraining them from offering for sale any preparation other than that prepared by Thomas Keating under the name of "Keating's Insect Powder."

HEAVY DAMAGES.

Chancery Division—MR. JUSTICE NORTH—October 26, 1886.

KEATING v. POLL.

IT WAS ORDERED—

That the Defendant be perpetually restrained from stating or causing to be stated that Keating's Persian Insect Destroying Powder contains any substance poisonous to animals or human beings, or from making any statement to the effect that such Powder is dangerous to animals or human beings.

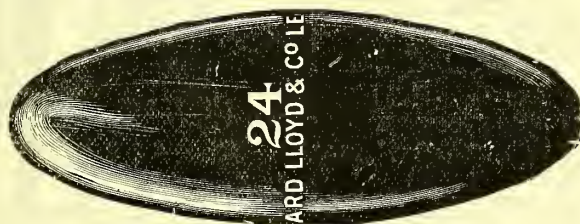
IT WAS FURTHER ORDERED—

That the Defendant, William Sheppard Poll, do pay to the Plaintiffs their costs of this action.

LLOYD'S "BI-CONICAL"

(CAPSULED)

HORSE BALLS



We are now making our CAPSULED HORSE BALLS according to the above improved shape, the advantage of which is that they are swallowed with the greatest ease, and as both ends are conical in shape they can be introduced either way.

The Capsule is black, and each Ball bears the number corresponding to the formula. The name of the buyer can be put on without extra charge (for orders of one gross assorted), and in smaller quantities are supplied **either with or without our name.**

The Capsule preserves the mass unimpaired for a very long time, and by retaining the moisture prevents the ball from becoming hard and partially insoluble.

The Balls are put up in boxes containing half-a-dozen.

For complete list of formulæ, see Monthly Price Current, which will be forwarded upon application.

A TRIAL ORDER WILL BE ESTEEMED.

Private Formulæ prepared in a few days.

T. HOWARD LLOYD & CO.

Wholesale Druggists and Manufacturing Chemists,

86 HIGH STREET, LEICESTER.

STEINER'S VERMIN PASTEFOR DESTROYING
RATS, COCKROACHES, ETC.IN [TRY IT]
3d., 6d., & 1/ Glass Jars; 2/6 & 5/ Tins.

Warranted to Keep for Export.

**STEINER'S VERMIN KILLER**FOR [NEVER FAILS]
**DESTROYING
MICE, ETC.**

1d., 3d., 6d., and 1s. Packets.

**STEINER'S INSECT POWDER
PRIME DALMATIAN.****ENGLISH GROUND.**The most energetic Insecticide.
Kills Bugs, Fleas, and all offen-
sive Insects. Quite harmless to
Domestic Animals.1d., 3d., 6d., & 1s. Tins (& Bellows).
Also in 7-lb. and 56-lb. Tins, and in Kegs of 1 cwt. and upwards.**JAMES'S PHOSPHOR PASTE**

FOR DESTROYING

BEEETLES, RATS, MICE, ETC.

Sold in 1d., 3d., 6d., and 1s. Glass Jars.

May be obtained through all the
Wholesale Houses, or direct from**THE WORKS, LIMEHOUSE, LONDON, ENGLAND**The Sanitary Institute of Great Britain has always given the
Highest Awards, when tested against other so-called
Disinfectants, to**CALVERT'S No. 5 CARBOLIC**Which is of the quality adopted as "Standard" by the
British and German Governments after bacteriological tests.
Unscrupulous statements that other disinfectants are
superior to genuine Carbolic Acid should be treated with the
distrust they deserve.*The Chemist and Druggist, July 30th, 1892, says:—"Although the supe-
riority of Carbolic Acid as a Disinfectant has frequently been challenged,
there is no doubt that it continues to hold the first place in public favour."*

Price Lists, Showcards, and Counter Bills on application to

F. C. CALVERT & CO., MANCHESTER.*Awarded 60 Gold and Silver Medals and Diplomas.***SUPPORT HOME INDUSTRIES.**

A.D. 1777.

BUY**KENT'S****BRUSHES.**See pp. 85-88, Winter Issue; also Diary, 1893,
pp. 437-40.

PARIS EXHIBITION, 1889.

PRIZE MEDAL AWARDED TO**"SALVO
PETROLIA"**Absolutely Genuine Paraffinum Molle of the
very Purest Form, and we claim that it is
superior to Vaseline.Manufactured by the Proprietors in Five distinct qualities—
WHITE, LEMON, YELLOW, GOLDEN, AND VETERINARY.
PACKED IN TINS, 1, 5, 10, 14, 28, 56, and 112 lbs. Also in 3-cwt. Casks.**"Edible Salvo Petrolia"**For Public Speakers, Actors, and Singers.
1s. 6d. per Tube.**"OLEUM DEELINÆ"**

(REGISTERED).

Universally adopted by the Medical Profession for
**OPHTHALMIA, SCURVY, RINGWORM, ECZEMA,
AND ALL SKIN-DISEASES.**

For External and Internal Irritation of every kind.

PACKED IN CASES—

One Doz. 1s. 6d. Bottles; One Doz. 2s. 6d. Bottles.
Pint Bottles, 4s. 6d. each, for Hospitals and Dispensing
Chemists.**TESTIMONIALS MAY BE HAD UPON APPLICATION.**

The above are Manufactured Solely by the Proprietors,

**THE DEE OIL COMPLY.
LIMITED.**

Works—SALTNEY, CHESTER.

OFFICES—

49 LIME STREET, E.C.Liverpool, Dublin, Manchester, Glasgow, Hull, Cardiff,
Bristol, Belfast, Barrow-in-Furness, Nottingham,
Paris, Hamburg, &c.

WANDSWORTH CHEMICAL WORKS, LTD.

CARBOLIC DISINFECTANTS.

CARBOLIC POWDER: PINK, WHITE, OR GREY.

ANY STRENGTH. PACKETS, TINS, AND IN BULK.

CARBOLIC ACIDS: CRUDE, 95/97% PALE, & WATER WHITE.

SANITARY FLUID or CREOSOL: Bottles, Drums, & Casks.

IMMEDIATELY SOLUBLE IN COLD WATER.

"PINEOTAS" DISINFECTANTS.

"PINEOTAS" POWDER, FLUIDS, AND OIL.

CONCENTRATED FLUID SHEEP DIP

CARBOLIC AND "PINEOTAS" SOAPS, PETROLEUM JELLY, CHLORIDE OF LIME, &c.

WORKS & WHARF: THE CAUSEWAY, WANDSWORTH, S.W.

TO THE WEED KILLER TRADE.

For Destroying Weeds, Moss, &c., on Garden Walks, Carriage Drives, Roads, Meadows, &c.

We desire to point out the special advantages which the sale of our "Acme" Weed Killer affords the Trade.

1. The "Acme" Weed Killer is used in the gardens and on the estates of the Gentry everywhere, and by Corporations and Burial Boards in Parks, Cemeteries, &c.

2. Our Retail Prices are such as will induce a ready sale, and we make no charge for 1 and 2 gallon tins.

3. We pay carriage on twelve gallons in 1 and 2 gallon tins, and on 10 gallons in drums and upwards, to any Station or Port in Great Britain.

4. Drums and casks are charged at cost price. Full prices allowed when returned.

Trade and Export Terms on application. The most Liberal Terms to the Trade.

RETAIL PRICES.—In 1 and 2 gallon tins, 2/- per gallon (tins included); in 5-gallon drums, 1/6 per gallon; 10, 15, and 20 gallons, 1/4 per gallon; in 40-gallon casks, 1/3 per gallon.

TESTIMONIALS received from Mr. HEAD, Crystal Palace; Mr. IRWIN LYNCH, Cambridge Botanic Gardens; and others.

THE "ACME" WEED KILLER, FOR CHEAPNESS AND EFFICIENCY, HAS WON FOR ITSELF A NAME FAR ABOVE ALL OTHERS.

SOLE PROPRIETORS AND MANUFACTURERS—

THE ACME CHEMICAL CO., LIM., Tunbridge, Kent; & Carlton St., Bolton, Lancashire.

CHEAPER AND EQUAL TO VASELINE, AND PRONOUNCED BY THE MEDICAL PROFESSION TO BE UNSURPASSED.

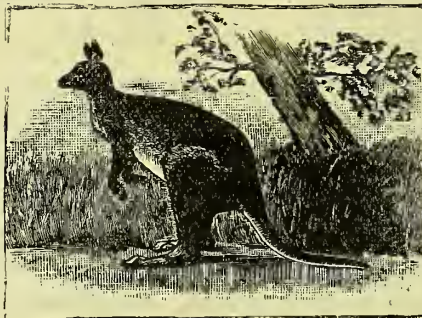
Tins of all sizes, from 1 to 10 lbs.; Iron or Wood Kegs, 1/2, 3/4, and 1 cwt.; Barrels about 3 cwt., &c. Samples and prices on application, stating packages and quantities required, to the Manufacturers—

SNOWDON, SONS & CO., MILLWALL, LONDON, E.

KANGAROO EUCALYPTUS OIL

25-lb. Tins.

KANGAROO



TRADE MARK.

25-lb. Tins.

BRAND.

Is admitted to be the Purest Eucalyptus Oil yet introduced to the public.
To be obtained of your Wholesale Druggist.

SOLE CONSIGNEES—**LAUGHLAND, MACKAY & BAKER**, 50 Lime St., LONDON.

COLONIAL ADDRESS—**A. M. BICKFORD & SONS**, WHOLESALE DRUGGISTS, 46 CURRIE STREET ADELAIDE.

BOORD & SON,

DISTILLERS, FOREIGN WINE AND SPIRIT MERCHANTS, AND METHYLATORS,
ALLHALLOWS' LANE AND BARTHOLOMEW CLOSE, LONDON, E.C.

Quotations for **S. V. R.** Methylated Spirit and Finish on application.
FINEST ORANGE WINE FOR QUININE.

**JAMES
BURROUGH,** **S. V. R.**

CALE ST., CHELSEA, S.W.

and Methylated Spirit

AT LOWEST PRICES.

WRITE FOR QUOTATIONS.

S $\frac{0}{56}$ **V** $\frac{0}{60}$ **R**
19/4 19/10

PERFECTLY PURE.

FIT FOR ANY PURPOSE.

PURE ORANGE WINE.

NET CASH WITH ORDER.



S $\frac{0}{61}$ **V** $\frac{0}{64}$ **M**

AT LOWEST PRICES.

Special Terms to Large Buyers.

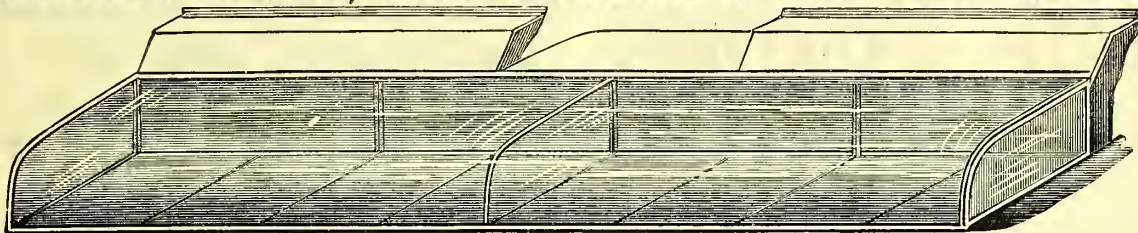
PURE GINGER WINE.

FOREIGN WINE AND SPIRIT MERCHANTS.

SOLE PROPRIETORS OF THE FAMOUS "GLENALLAN" PURE MALT WHISKY.

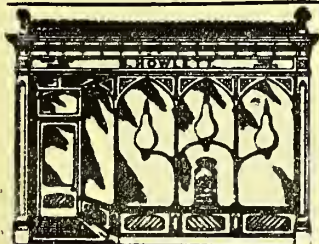
Per doz. 42/- Per doz. THE CREAM OF SCOTCH BLENDS. Per doz. 42/- Per doz.

ONLY ADDRESS—NO CONNECTION WITH ANY OTHER HOUSE.

ELKANAH NATALI, SHOP FITTER & GLASS CASE MAKER.

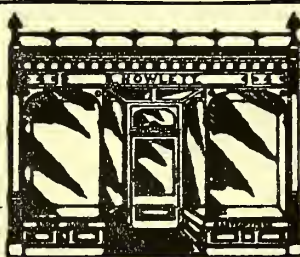
Mahogany and Plate-glass Counter Case, sloping and flat shelf at back, 12 inches high to top of shelf, fitted inside with velvet-lined trays and silvered glass back. 5 feet long, £5; 6 feet long, £5 10s.; 8 feet long, £7.

242 OLD STREET (12 doors from City Road). Works: HENSON STREET.
ESTABLISHED 20 YEARS.



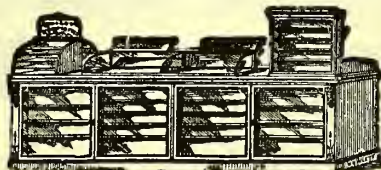
ESTABLISHED 1830.
S. HOWLETT,
MEDICAL AND
GENERAL SHOP FITTER.
Shop-Front Builder and Show-Case Maker.

EXPORT ORDERS CAREFULLY PACKED AND SHIPPED.



SHOPS FITTED by Contract, in Town or Country, with every requisite, on the most improved principles, and at lowest prices.

NUMEROUS REFERENCES may be obtained of Leading Chemists in all parts of the Kingdom.



A LARGE STOCK of New and Second-hand Fittings and Cases to be sold very CHEAP.

CABINET FITTER to the Pharmaceutical Society of Great Britain.

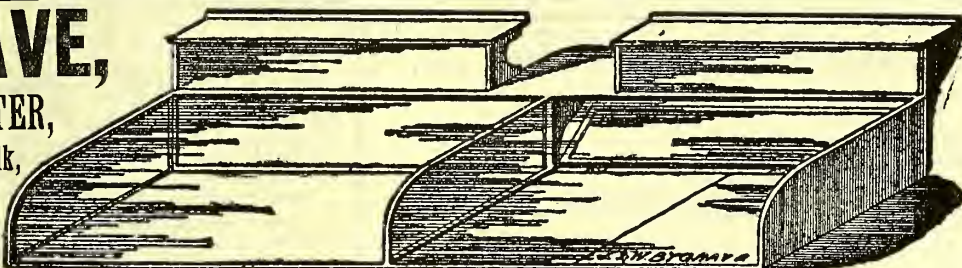
PLANS and ESTIMATES SUPPLIED.

Manufactory and Showrooms—4 Lindley St., Sidney St., Mile End Road, LONDON, E.

BYGRAVE,

SHOP FITTER,

111 Shepherdess Walk,
CITY ROAD,
LONDON, N.

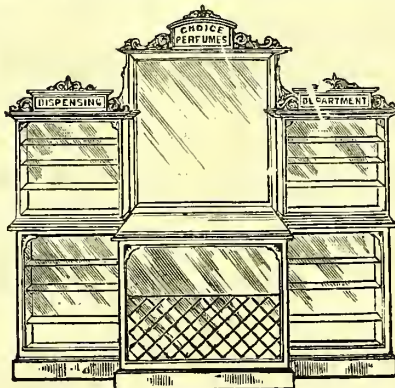


Bent-top plate-glass Counter Showcase, in French polished mahogany, or ebonized, with two upright mirror plate-glass fronted shelves, and table in centre for serving over, and mahogany falls at back lined with mirror plate glass inside fitted with crimson velvet trays—if 5 ft. long, 18 in. wide, 8 in. high (total height 13 in.), £5 10s.; 5 per cent. off for cash.

"THE CHEMIST" DISPENSING COUNTER.

6 feet long by 2 feet wide £24
If the Dispensing Screen only £12

This handsome Dispensing Counter is manufactured in Spanish mahogany, and of the best workmanship, so that it will stand any climate. The counter has a solid mahogany top and plate-glass case front. The centre part fitted to take sponge. A mahogany screen on top, consisting of two plate-glass cases, with shelves inside, and large plate-glass mirror in the centre, and three glass tablets with gold writing in ornamental mahogany carved work. The back of screen fitted with small shelves and a glass poison-cupboard. The inside of counter fitted with strong counter-drawers, label and cork drawer, open shelves, &c.

**NOTICE TO THE TRADE.**

In consequence of inferior Second-hand Goods being sold for our make, we have found it necessary to protect our reputation for best work with a Trade Mark, as above, and unless goods are so stamped we cannot be answerable.

BOWLING & GOVIER,

Manufacturers of High-class Shop Fittings,
GUN STREET, BRUSHFIELD STREET,
BISHOPSGATE, E.C

Wholesale Buyers should write for Terms and Samples of the
Cheapest and Best

GUTTA PERCHA OR METALLIC

TOOTH STOPPINGS

Which are Manufactured by J. J. LAKEMAN, Dentist, LEYTONSTONE,
Maker of the MERMAID IMPRESSION COMPOSITION for Dentists' use, 3s. per lb., post free.



DENTAL.

Our business is to supply Teeth, Instruments, Tools, Gas Apparatus, and every requisite for Dental Practitioners; full value at bottom prices. Paragon Rubbers, best and cheapest, half-pound each, mailed free for 10/9, as sample. Springs and Swivels, 2/6 dozen sets. Send for them! Complete outfits. Enquiries invited. Prompt despatch.

ELLIOTT & CO., 30 Hanover St., EDINBURGH.

"SILVERY WHITE GUTTA PERCHA ENAMEL"

TRADE MARK.

TOOTH STOPPING



P. A. STEVENS, Surgeon-Dentist,

72 MANFIELD ROAD, N.W.

SOLE PROPRIETOR AND MANUFACTURER.

Registered—No. 3745.

Special Terms to Wholesale Houses for Sheet or Sticks stamped with their own name. A sample box of 3d. sticks sent post free for 12 stamps. Price list and sample free.

RAYBOULD'S FURNITURE POLISH

BRIGHTENS FURNITURE WITH LITTLE LABOUR.

In Tins—1d., 7/- gross. Stone Bottles—1d., 8/- gross; 3d., 2/- dozen; 6d., 4/- dozen; 1s., 7/- dozen. It is sure to please and increase your trade. Every Chemist should send for Sample order, 6 dozen assorted as required, Carriage Paid, P.O.O. or Cheque, payable to

FLESHER RAYBOULD, REFORM WORKS, DUDLEY.

Bromley's Gout & Rheumatic Pills

Estab. 1807.

WILL CURE.

FREE Printing of Chemists' own Circulars.

READ DIARY, PAGE 406.

Voted 5th out of 500 representative firms' announcements as most useful and profitable.

Awaiting your esteemed reply to-day. Send also copy for Handbills or Labels.

SIR THOMAS'S BUILDINGS, LIVERPOOL, ENGLAND.

CHEAPEST.

Retail Profit

£1 on £3.

Full retail

prices absolutely

guaranteed.

EADE'S GOUT and RHEUMATIC PILLS

Are the safest and most effectual remedy advertised for

GOUT, RHEUMATISM, AND ALL MUSCULAR PAINS.

GEORGE EADE, 72 GOSWELL RD., E.C.

Counter Bills and Show Cards on application.



VOL. II.
NOS. 1, 2 & 3.
NOW READY.

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Full of Advertising Novelties and Blocks for all Trades.
The Annual Sub. is now 2s. 4d. Single Copies, 7d.

174 FLEET STREET, E.C.

BLAUD'S PILLS (Best Quality, Soluble Coating).

10-gross Tins, carriage paid, for 4/6. Cash with order.

7-lb Tins (56 gross), carriage paid, for 21/-. Cash with order.

COMP. SULPH. LOZ. (Garrod's Formula) & TABLETS.

4 lbs., carriage paid, for 4/-. Cash with order.

7 lbs., carriage paid, for 6/6. Cash with order.

SPECIAL QUOTATIONS FOR LARGE QUANTITIES.

JAMES N. DAVIDSON & GRAY, CHEMISTS, DUNDEE.

PRECIPITATED CHALK, WHITEST PUREST.

CHEAPEST SELLERS IN THE MARKET.

ALSO CHEMICALS, DRUGS, AND OILS.

APPLY TO

AUG. LEVERMORE & CO., 8 LIME STREET, LONDON, E.C.

COFFEE.

THE "ORIGINAL CANISTER" & ROASTED COFFEES

These Coffees have been before the Public for nearly 50 years, and are the very best of their kind.

WHITE, FAIRCHILD & CO., 30 Gt. Tower St., E.C.

ESTABLISHED 1847. AGENTS WANTED.

MIKADON

The new
painless Japanese

CORN OINTMENT

Cure guaranteed or money
refunded. Post free 1/1.

D. CHONG, Laboratory

DERBYSHIRE.

The only
reliable cure
for corns
known.

Trade 8/6
per dozen,
cash,
Carriage
paid.

ARTHUR & CO.

Manufacturing Chemists, LONDON.

OFFICE AND STOCKROOMS—

74 NEWMAN STREET, OXFORD STREET, W.



E. H. THIELLAY'S (Registered 1867)

EAU F. JOUVENCE, GOLDEN.

Producing Flaxen Golden Hair.

Gold Medal, PARIS, 1867. PHILADELPHIA, 1876.

This is a very superior article. In Bottles at 3/6, 6/-, & 10/-

All Wholesale Houses, or direct from

E. H. THIELLAY,

Parfumeur-Chimiste, Amersham Park, New Cross, LONDON S.E.

(SHOW ROOMS AT CHARING CROSS HOTEL.)



Supplied in Original Bottles ready for
Patient's use (stamped), to retail at 4/6
each; also in 1-lb. Bottles for Dispensing,
by the Sole Manufacturers:—

**Fletcher, Fletcher
& Stevenson,**
21 Mincing Lane,
London, E.C.

GRETA BRAND PRÆCIP.

Much Lighter and Finer than any other in the Market.

Prices and Samples on application to

SOLE AGENTS—

ALF. H. MASON & SON, 32 Snow Hill, LONDON, E.C.

OXONIA

The New Lotion for Rodent Ulcer, Cancer of Tongue, Lips
Lupus, Ringworm, Varicose Veins, &c.

Retail, 2/9 per Bottle; Trade, 23/- per dozen, subject.

THOMAS CHRISTY & CO., 25 Lime Street, LONDON, E.C.

NOTICE TO ESSENCE OF RENNET MAKERS.

IRISH VELS

Imported for many years in casks, ranging from 50 to 100 dozen, by
A. & J. WARREN,
 WHOLESALE DRUGGISTS AND METHYLATED SPIRIT MANUFACTURERS,
 23 and 24 REDCLIFF STREET, BRISTOL.
Correspondents are requested to specify precisely the quantity they can buy.

HAND-PICKED GUM ARABIC.

Wholesale and Export Druggists before buying elsewhere
 should apply to

FREDK. FINK & CO.

10 & 11 MINCEING LANE, LONDON, E.C. [2]

THE WANT OF THE DAY!

NO MORE SOFT LINEN WHEN STARCHED.

Used in the Royal Laundries.

Should be used in Every House.

The Greatest Boon ever offered to the Laundress for
 imparting an IVORY-FINISH to Starched Linen,
 Laces, &c. It does not stick to spider-web-like
 materials.



REGISTERED No. 40,376.

Once Tried, Always Wanted.

Makes Old Linen like New.

From the Chief Laundress to H.R.H. the Prince of
 Wales:—West Newton, near Lynn, Norfolk, Aug. 23,
 1879. Sir,—Having tried your "STARCH GLOSS," I
 certainly think it a great improvement—far superior
 to any I have tried. Yours truly,
 To Mr. CRITCHLEY. E. ELDER.

Sold by Chemists and Druggists, Grocers, Oilmen, &c., in Packets at 1d., 3d., 6d., and 1s. each.

PREPARED ONLY BY

T. CRITCHLEY, CHEMIST AND WHOLESALE DRUGGIST, BLACKBURN.

LONDON DEPOT—2 BEECH STREET, E.C.

BARCLAY & SONS, LTD.**CAMEL HAIR BRUSHES**

IN GLASS TOP BOXES.

1 gross Assorted in a Hinged Box, with Glass Lid with a good supply of spare sticks.

PLEASE
 SPECIFY
 "IN
 HINGED
 BOX."

PER BOX
3/6 NET.



95 FARRINGDON STREET, LONDON, E.C.

**CHEMICAL
 DISINFECTANT.**

A 10 and 15 % CARBOLIC
 Antiseptic and Deodorising
 Powder.

In bags and casks free.

AGENTS WANTED

to supply Corporations and large users.

6d. and 1/- Decorated
 4/- and 5/- per doz. Boxes.

Special terms for 5 gross and up-
 wards, with agent's name and
 address thereon.

**CHESHIRE
 BIRD LIME.**

In 1d., 2d., and 3d. tins.
 Also in 1, 2, 3, and 7 lb.
 tins and casks, for large con-
 sumers and the trade.

*The new and attractively
 labelled tin boxes are very
 convenient and handy for
 use and retailing. Save time
 and trouble.*

**"COAGULINE" TRADE
 MARK.**

Transparent Cement for
 Broken Articles,

CUE CEMENT.**CUE-TIP FIXERS**

(Brass or Wood).

TIPS, WAFERS, CHALKS.

LAVA.

A fusible imperishable Cement
 for Stone and Iron Work
 Bedding, &c.

SAPO LINI,

OR

LINSEED SOAP

(A Saponified Linseed Jelly).

In Brown Windsor or
 "Rosotto" Tablets.

Prices, Circulars with Name and Address, Specimens, Show Cards, Glass Tablets, &c., &c., on application.

KAY BROTHERS LIMITED, Laboratory and Works, ST. PETERSGATE MILLS, STOCKPORT. Founded A.D. 1786. Incorporated 1887.

£1,000,000

This is the sort of fortune many an old-fashioned Varnish Maker has left behind him, but

PINCHIN, JOHNSON & CO.

23 Billiter Street, London, E.C.

Do not aspire to these big figures, but are anxious to prove that their

VARNISHES,

In 1 Gallon Cans free, as well as their

OILS AND COLOURS

are the BEST and CHEAPEST in the Market.

Telegrams—"PINCHIN LONDON."

WRITE FOR PRICE LISTS AND SAMPLES.

Telephone—No. 2241.

WILLIAM FOX & SONS,

WHOLESALE DRUGGISTS, &c.,

109 & 111 Bethnal Green Road, London, N.E.

Cabinet Varnishes, Polishes, Glaze, Finishing Spirit,
Glues, Wood Stains, Gums, Resins, Shellacs.

PRICES FORWARDED ON APPLICATION.

TELEPHONE NO. 1499.

HUBBUCK'S PURE OXIDE OF ZINC

THROUGH THE CHIEF WHOLESALE HOUSES.

THOMAS HUBBUCK & SON, L^{IM}

(ESTABLISHED 1765),

24 . LIME STREET, LONDON, E.C.



POTTERS HERB BEER EXTRACT

**MAKES THE FINEST NON-INTOXICATING
DRINK IN THE MARKET.**

This Purely Botanic Extract is composed of the Best English Herbs, including Hops, Dandelion, Horehound, and Gentian.

As a Dinner or Supper Beverage it is unequalled.
Its Tonic & Purifying Properties render it very beneficial.
It is now drunk in all parts of the World.

A Sixpenny Bottle will make Eight Gallons of Splendid Botanic Beer. Price 3/6 per dozen. Gross quantities at 3/3 per dozen.

PREPARED ONLY BY
POTTER & CLARKE, LONDON, E.

POPULAR HERBAL PACKETS

("WINGED LION" BRAND).

TONIC HERBS (2d.) for making Herb Beer, 12/- per gross.

HOP TONIC (2d.) makes a splendid medicine 12/- per gross.

BLOOD PURIFYING HERBS (6d.), a splendid combination of alteratives, 3/- per dozen.

INGREDIENTS MAKING JAMAICA SARSAPARILLA COMPOUND.

1/- Packets, 7/- dozen. 6d. packets, 4/- dozen.

MEDICINAL HERBS (1d. packets), 85 varieties 7/- per gross.

CULINARY HERBS (1d. packets), best quality only 7/- "

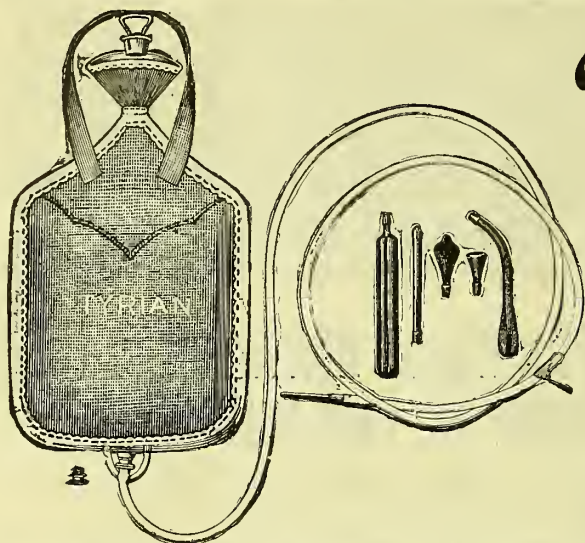
Supplies of the Pamphlet on "POPULAR HERBAL REMEDIES" sent with all orders, also Show-cards, Bills, &c.

PRICE LISTS ON APPLICATION POST FREE.

POTTER & CLARKE,

WHOLESALE BOTANIC DRUGGISTS,

5, 6, & 7 RAVEN ROW, ARTILLERY LANE, LONDON, E.



"TYRIAN"

COMBINATION

FOUNTAIN SYRINGE

AND

HOT WATER BOTTLE.

A first-class Hot Water Bottle, combined with a complete Fountain Syringe. Has six hard rubber pipes, the Rectal, Nasal, Eye, Spray, Bent Vaginal, and large Vaginal Irrigator.

The Bag and Tubing are of Best Quality White Rubber, and guaranteed perfect. Packed in handsome wooden boxes. In two, three, and four quart sizes.



"TYRIAN" No. 85 NIPPLE.

TO GO OVER NECK OF NURSING
BOTTLE.

PURE,
DURABLE,
ECONOMICAL.



Bath & Flesh Brushes.

*Unsurpassed for removing Dirt or
Grease from the Hands.*

FAIRBANK'S FOUNTAIN SYRINGES.

"TYRIAN" NO. 19 SYRINGES.

PURE GUM EAR & ULCER SYRINGES.

"TYRIAN" BREAST PUMPS (with shield).

COMPLETE LINE OF ATOMISERS

AIR GOODS, BANDAGES, TUBING, URINALS.

**COMPLETE LINE OF DRUGGISTS' SUNDRIES
MANUFACTURED BY**

TYER RUBBER CO.

ANDOVER, MASS., U.S.A.

English Agents—HENRY W. PEABODY & CO., 5 East India Avenue, LONDON,
TO WHOM APPLY FOR CATALOGUES AND INFORMATION.